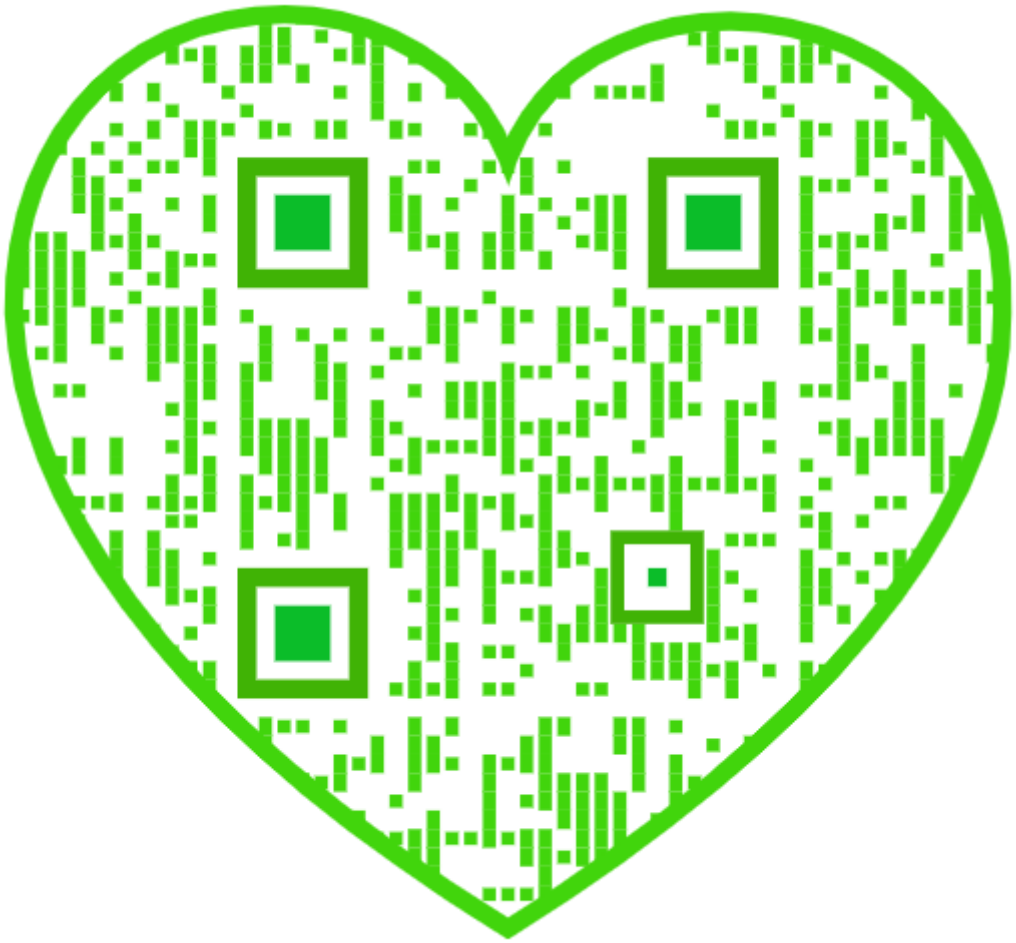
METHODS OF TEACHING



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THE SCIENCE OF THE MIND APPLIED TO TEACHING.

INCLUDING THE HUMAN TEMPERAMENTS AND THEIR INFLUENCES UPON THE MIND; THE ANALYSIS OF THE MENTAL FACULTIES, AND HOW TO DEVELOP AND TRAIN THEM; THE THEORY OF EDUCATION AND THE SCHOOL; AND METHODS OF INSTRUCTION AND SCHOOL MANAGEMENT.

BY

U. J. HOFFMAN,

VICE-PRESIDENT OF JENNINGS SEMINARY AND NORMAL SCHOOL, AND PROFESSOR OF BELLES-LETTRES AND TEACHERS' TRAINING.

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DEDICATION.

To the Children and Young Ladies and Gentlemen whom it has been his pleasure to serve as teacher and who by their friendship and their appreciation of the good and the true, have encouraged him and caused him to love his work, this volume is Affectionately Dedicated by *THE AUTHOR.*

PREFACE.

It is an almost universally accepted truth that a right education will secure virtue and power, and that virtue and power are the essentials of individual and national well-being. Education is then the supreme interest of the age. It is only recently, since republican principles are accepted as the true foundation of right government, that the education of all the youth has come to be regarded of prime importance. The proper interest in the cause of education is just beginning to be felt by all classes of people. And although in the last twenty-five years much has been written, yet we are a long way from the "Science of Education." In the mean time it is fitting that teachers should help one another, by the exchange of ideas. It is because the principles which are presented in the following pages have been very helpful to me, and the hope that they may be so to others, that I present this volume to my fellow teachers. It has been prepared in the spirit of broadest liberality, appreciating the high aims and valuable thoughts of others. I have freely appropriated what I thought good from all sources; and I ask only the same from others—take the good and reject the spurious. Even though all do not agree with me in all that is here said, if my work tends to arouse a higher purpose, and to quicken a desire for a better knowledge of the truth, my labors will not be in vain.

As far as possible authors have been given credit in the proper place. But I am especially indebted to the Indiana State Normal

School, at Terre Haute, Ind., for ideas on the Theory of Education and the School. Were their views published, I would gladly give the name of publisher that all might see to what extent I have drawn from them.

The mental philosophy here employed is the system known as Phrenology. I have satisfied myself fully as to the correctness of its principles, and think that any one laying aside prejudice and investigating by observation will also be satisfied. Saying nothing as to its value as an index to individual character, yet as explaining mental manifestation it is so simple and so accords with human nature and the experience of mankind that it commends itself at once to the student. The facts pertaining to the human mind and charcter as set forth by this system are so eminently practical that they will be gladly accepted by teachers who have never studied mental philosophy, and by those who have striven in vain to get some useful ideas from the speculative systems.

This work has been prepared while doing full work in the classroom and caring in part for the interests of a large school. It is, no doubt imperfect in many respects, and I solicit correspondence from teachers asking for criticisms and suggestions of improvement, that should a future edition be called for, it may be much improved.

With the hope that my labor may be helpful, especially to young teachers, I am Sincerely,

Your co-worker, U. J. H.

JENNINGS SEMINARY AND NORMAL SCHOOL,
AURORA, ILL., *August* 12, 1885.

TABLE OF CONTENTS.

CHAPTER I.

FIRST PRINCIPLES.

PAGE.

Mental and Physical nature of Man..... 13
The Educator..... 13
Influence of the Physical upon the Mental nature. 14

CHAPTER II.

THE TEMPERAMENTS.

Motive Temperament..... 20
Physical Characteristics. 20
Mental Characteristics.. 22
Boys and Girls in School. 22
Cultivation 22
The Vital Temperament... 23
Physical Characteristics. 24
Mental Characteristics.. 25
Boys and Girls in School 26
Cultivation 27
The Mental Temperament. 27
Physical Characteristics. 27
Mental Characteristics.. 27
Boys and Girls in School 28
Cultivation 29
Combination of the Temperaments..... 29
What makes a Great Man. 30
Effects of Temperament on Judgment 32

CHAPTER III.

BRAIN AND MIND.

Mind Defined..... 34
Faculty Defined..... 34
A Power not a Faculty.... 35

PAGE.

Relation of the Brain to the Mind..... 35
Relation of a Mental Faculty to the Brain..... 35
How to estimate the relative strength of each Faculty..... 38

CHAPTER IV.

CLASSIFICATION OF THE MENTAL FACULTIES.

The Feelings..... 39
The Self-relatives..... 42
The Selfish Propensities..... 42
The Æsthetic Faculties..... 45
The Socials..... 45
The Domestic Propensities..... 48
The Governing Group. 49
The Conforming or Moral Sentiments ... 50
The Intellect..... 51
The Perceptives..... 54
Classification..... 54
The Reflectives..... 55

CHAPTER V.

ANALYSIS OF THE FACULTIES.

Self Relatives..... 56
Selfish Propensities..... 57
Love of Life 57
Alimentiveness 60
Location..... 60

PAGE.
Function..... 60
Training..... 61
Acquisitiveness..... 64
Location..... 64
Function..... 64
Cultivation..... 66
Destructiveness..... 68
Location..... 68
Function..... 68
Training..... 70
Combativeness..... 71
Location..... 71
Function..... 71
Training..... 73
Cautiousness..... 75
Location..... 75
Function..... 76
Training..... 77
Secretiveness..... 79
Location..... 79
Function..... 79
Training..... 81
Constructiveness..... 82
Location..... 82
Function..... 83
Cultivation..... 84

CHAPTER VI.

THE ÆSTHETICAL FACULTIES.

Ideality..... 85
Location..... 85
Function..... 85
Cultivation..... 89
Sublimity..... 90
Location..... 90
Function..... 90
Cultivation..... 92
Mirthfulness..... 92
Location..... 92
Function..... 93
Cultivation..... 96

CHAPTER VII.

THE SOCIALS.

Domestic Affections..... 97
Amativeness..... 97
Location..... 97
PAGE.
Function..... 97
Cultivation..... 98
Love for Children..... 101
Location..... 101
Function..... 102
Cultivation..... 102
Friendship..... 103
Location..... 103
Function..... 103
Cultivation..... 105
Inhabitiveness..... 106
Location..... 106
Function..... 106
Cultivation..... 108
Remarks on the Affections..... 108

CHAPTER VIII.

THE GOVERNING GROUP.

Self-Esteem..... 112
Location..... 112
Function..... 112
Cultivation..... 114
Restraint..... 115
Love of Approbation..... 117
Location..... 117
Function..... 117
Cultivation..... 117
Firmness..... 122
Location..... 122
Function..... 122
Cultivation..... 124
Conscientiousness..... 125
Location..... 125
Function..... 125
Cultivation..... 128

CHAPTER IX.

THE CONFORMING GROUPS.

Veneration..... 132
Location..... 132
Function..... 132
Cultivation..... 135
Kindness or Benevolence.. 136
Location..... 136
Function..... 136
Cultivation..... 138

PAGE.
Hope 140
Location 140
Function 140
Cultivation 141
Imitation 142
Location 142
Function 143
Faith or Credensiveness ... 146
Location 146
Function 146
Cultivation 148

CHAPTER X.

THE INTELLECT.

Analysis 150
To what objects related ... 150
Consciousness 151
Language an index to Intellect 152
Classification of Faculties. 153
Perceptives 154
Reflectives 155

CHAPTER XI.

THE PERCEPTIVES.

Individuality 157
Location 157
Function 157
Form 160
Size 161
Weight 162
Color 163
Order 164
Number 166
Language 167
Tune 170
Time 172
Locality 172
Eventuality 173

CHAPTER XII.

THE REFLECTIVES.

Comparison 175
Location 175
Function 175
Causality 177
Location 177
PAGE.
Function 177

CHAPTER XIII.

POWERS OF THE INTELLECT.

Laws of Activity 180
Perception 182
Conception 183
Imagination 185
Abstraction 185
Generalization 186
Synthesis 187
Analysis 187
Concept Defined 187
Kinds of Concepts 187
Concrete 187
Abstract 188
Particular 188
General 188
Division 188
Description 189
Definition 189
Memory 190
Reason 191
Kinds of Reasoning 193
Deductive 193
Inductive 193
Hypothesis and Theory ... 194

CHAPTER XIV.

THE THEORY OF EDUCATION.

Source 199
Mental Nature of the Lower Animals 199
Mental Nature of Man 201
The Harmonizer of Man's Nature 202
The Right 204
What Man Must Do 205
The Ideal Man 206
The Purpose of Man's Being 207
Education 207
Instruction 207
Training 207
A Process of Liberation. 208
A Directing Process 209
Man a Social Being 210

PAGE.
The Place for Education... 211
Social Unions..... 211
The Family..... 211
Home Education..... 212
Society..... 213
The State..... 213

CHAPTER XV.
SCHOLARSHIP.

Restraints on the Intellect. 215
Liberation of the Intellect. 216
Studies that are Fundamental..... 218
Language..... 219
Geography..... 220
History..... 221
Arithmetic..... 222
Physiology and Hygiene. 222
Natural Sciences..... 223
Summary..... 224
When to Study the Rudiments..... 224
Objective Period..... 226
Time of Objective Period..... 225
Studies of Objective Period..... 225
Subjective Period..... 226
Time of Subjective Period..... 226
Studies of Subjective Period..... 226
Transitional Period..... 227
Studies..... 227
Demand and Supply..... 228

CHAPTER XVI.
CONDUCT.

Conformity..... 229
Order..... 230
How to Secure Order.... 232
Duty of the Teacher..... 233
Silence..... 234
Politeness..... 235
Duty of the Teacher in.. 237
Study..... 237
Duty of the Teacher in.. 237

PAGE.
CHAPTER XVII.
PRINCIPLES UNDERLYING METHODS..... 241

CHAPTER XVIII.
HOW TO TEACH LANGUAGE.

Reading..... 252
The Alphabet Method..... 252
The Word Method..... 253
Points to be Remembered. 255
Advantages of Word Method..... 256
First Reader..... 256
Second Reader..... 258
Third Reader..... 259
Advance Reader..... 260
Fourth Reader..... 260
Fifth Reader..... 261
Spelling..... 261
Auricular Method..... 262
Occular Method..... 262
Primary Spelling..... 263
Spelling in Secondary Classes..... 265
Oral Spelling..... 265
Written Spelling..... 265
Orthography for Advanced Classes..... 268
The Mother Tongue..... 271
How to Talk..... 274
How to Write..... 289
Grammar..... 305
How to Teach Grammar. 305
Objects to Gain by the Study of Grammar.... 306
Outlining in Grammar.... 309

CHAPTER XIX.
SCIENCE.

Geography..... 314
Primary Geography..... 316
Oral Geography..... 316
Text-book Work..... 319
Advanced Geography... 319
Topic-list in Geography 320
Particular Geography... 324

PAGE.
History..... 324
Uses of the Study of History..... 326
Ends to be Sought..... 326
Preparatory History.... 327
First Course..... 328
Second Course..... 330
Systematic History..... 331
Outline of History..... 333
Arithmetic..... 337
How to Teach Number.. 338
The Number Five..... 342
Five as a Whole.... 342
Discoveries in Five.. 342
Exercises for Review 342
Facts in Five..... 343
Comparison of Five with Numbers known..... 354
One-half..... 355
Advanced Arithmetic... 356
Objects sought..... 356
Analysis..... 359
Physiology..... 362
Outline in Physiology... 364

CHAPTER XX.

GRADATION.

PAGE.
Course of Study..... 367
The High School..... 368
Programs for Daily Recitation and Study..... 368
Successive Transformation..... 369
Course of Study for a Grammar School..... 370
Course of Study for High School..... 371
Program of Recitation for a Country School..... 372
Programs of Recitation and Study for a School of Two Departments..... 374
Programs of Recitation for a School of Three Departments..... 375
Table showing Successive Transformation of a School..... 378

THE MIND.

THE SCIENCE OF THE MIND.

CHAPTER I.

FIRST PRINCIPLES.

The Mental and Physical Nature of Man.—Man has two natures: the mental and the physical. By the latter term is meant all those functions and activities which are not engaged directly in the production of thought and feeling. Anatomy and Physiology are the sciences which treat of the physical nature.

By Mental Nature is meant all the activities which constitute thought, feeling and will. Psychology is the science which treats of the mental nature. These natures are not independent of each other, but each is so closely related to the other that they must be studied together. The difference which exists in the mental nature of two individuals, not the result of different training, is the result of bodily difference. The difference is either in the perfection of its structure or the size of the organ.

The Educator.—In Education a change is sought to be made in the mental nature. The Educator seeks to regulate, strengthen and facilitate the action of the mental activities. It is therefore apparent that a

knowledge of the mental nature is of the greatest importance to the teacher. A knowledge of the mind is to the teacher what a knowledge of navigation is to the sailor; and without this knowledge there is as much uncertainty about his work as there was in the voyage of Columbus. The average teacher is too ignorant of man's mental nature to be in the highest degree successful in its cultivation. He works as the unlettered farmer does, according to a model which was set before him, without any definite knowledge of the adaptation of means to secure certain ends. In many of our Normal Schools teachers are taught simply to imitate. Learning methods and then repeating them is mere machine work. The best method will fail unless the teacher understands how to adapt the method to the mind of his pupil. The teacher should do as does the intelligent physician, who studies the human body and its activities until he understands them perfectly. He next studies remedies for bodily ills. Then he is able to prescribe with some degree of certainty as to good results. The teacher should study the mental nature until he understands that perfectly. Next he should study methods for improving it. Quack teachers, like their brothers in the medical profession, have one method warranted to cure every ill.

Influence of the Physical Nature upon the Mental Nature.—There is a great difference in the quality of the material and the perfection of the structure which is to be found in individuals of the same kind, whether among men or among animals.

The butcher can tell at a glance whether the live animal will yield fine-fibered and tender meat, or whether it will be coarse and tough. It is not difficult

to distinguish a perfectly from an imperfectly organized horse. In the well-made animal the head, the body, the hind and fore-quarters, legs and feet are in proper proportion to one another. There is also a fineness and compactness of fiber which indicate good quality. The imperfect animal is loose-jointed, the large legs out of proportion with the slender hind-quarters, the hair and bones are coarse, the muscles slender and flabby. No amount of care, good feeding and training will make him equal to the one that is well made. A little observation will convince one that among men there is as great a difference.

Take for example the "poor whites" of the southern States. They are generally the descendants of the helpless and vicious class who were transported by England in the early colonial days. They were kept in slavery for a few years and then set at liberty. Their descendants have since lived in poverty and degradation. They are ill-shaped, coarse and ugly almost beyond belief.

In the slums of New York and Chicago there are human beings who bear a greater resemblance to the gorilla than to man. The low quality of their organisms makes them almost incapable of rising out of their deplorable condition. Education can work wonders among many of these in time, but it would take centuries of good feeding and training to bring the average up to ordinary intelligence, refinement and morality.

On the other hand, the religious and political persecution in Europe separated a class of people from the rest. Many of them sought refuge in the wilds of America. The best material is now to be found among

the descendants of the Puritan, Quaker and the Huguenot.

The superiority of these over the "poor whites" and the low class in our cities is the result of superior quality in bodily organization. This high quality is produced by union in marriage of those physiologically

FIG. 1.—Motive Temperament. (Strong.)

adapted, by correct living, education and climate. The quality of one part of the body is also the quality of all the other parts. Coarse skin and hair indicate coarse muscular and nerve fibers. Soft, flabby skin and hair indicate similar properties of brain. Ill-health of any part has a deleterious influence upon the

others. The bodily conditions are most influential upon three qualities of mental manifestation: Strength, acuteness and energy.

Strength is given by largeness, compactness of fiber; acuteness is given by fine quality of fiber; and energy is given by good health. The highest mental qualities are the result of a proper combination of these

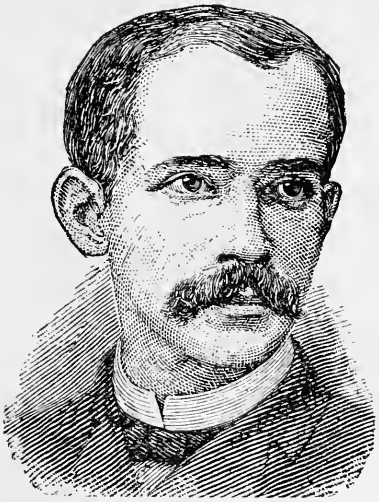


FIG. 2.—Mental Temperament. (Acute.)

three bodily conditions. Where there is an absence of fineness, the person may be strong and vigorous but is deficient in acuteness, delicacy and sensitiveness. All his faculties are obtuse. He fails to appreciate the finer shade of thought and feeling. If there be a deficiency of size and compactness he will be wanting in strength, but may possess great refinement and delicacy of per-

ception and feeling. If the health of even a good organization be poor, none of the functions can be performed energetically. Some organizations are analogous to cloth made of hemp. These are strong. Others are analogous to cloth made of fine silk. These are deficient in strength, but have great acuteness. Still others are analogous to cloth made of a

Fig. 3.—Strong and Acute.

coarse and a fine material in proper proportion. These possess both strength and acuteness.

Fig. 1.—Strong. Fig. 2.—Acute. Fig. 3.—Strong and acute. Fig. 4.—Low quality. Fig. 5.—Energy.

Corresponding to these three properties of the body and mind there are three systems in the human organism upon which these properties depend. They are

all necessary to the existence of the body, but the relative strength of these systems is not the same in two individuals.

The Motor System.—The bones and muscles form the motor system.

The Nutritive System.—The alimentary canal, the circulating and respiratory organs, the secretory or-

FIG. 4.—Very Low Organization.

gans and absorbents, and all the organs which are engaged in transforming food into living tissue or keeping the system in repair, form the nutritive system.

The Nervous System.—The brain, the spinal cord and all the nerves form the nervous system.

CHAPTER II.

THE TEMPERAMENTS.

The preponderance of one of these systems over the others gives rise to a peculiar physical condition which we call a Temperament.

The Motive Temperament.—The preponderance of the muscular and osseous systems in the human organism gives rise to the physical condition which we call the Motive Temperament.

Physical Characteristics.—The chief physical characteristics of the motive temperament are large and usually long bones, slender but firm, compact muscles; causing a heavy, tall, angular frame. The features are prominent; large nose, high cheek bones and heavy jaws.

The hands and feet are large, the joints being prominent. The complexion is usually dark and the hair stiff, and sometimes coarse. When the nutritive and nervous systems are deficient this temperament is marked by extreme angularity and awkwardness.

Mental Characteristics.—This temperament gives great physical strength and it also imparts strength to the mental nature. If a man of this temperament has intellect it will be noted for great power and force, but not for brilliancy and acuteness. His mental operations will be slow, but his thoughts will have vigor.

If he have temper and will, they will be slow to act, but once awakened, they will act with a force that carries everything before it. It puts iron into the will and force into passion. Such a man is not easily offended, for his sensibilities are so blunt as not to be moved by slight offences. Though he loves his friends with a devotion which would cause him to make great sacrifices for them, yet he lacks that delicacy of feeling which is responsive to finer touches of affection.

All other conditions being the same, the man with the most of motive temperament can bear up under greater responsibility; can conduct successfully greater undertakings; will have greater solidity and positiveness of character. He loves large affairs and spurns all work which requires little effort and strength. He loves farming on a large scale, railroading, steamboating, manufacturing, the hardship and vast responsibilities which attend life in the army and on the sea. Such men find their greatest happiness in such callings, for lighter employments fail to give full action to their great powers.

Orators of this temperament present arguments and thoughts which compel rather than pursuade. Their eloquence possesses a force that carries away the hearer against his will. Webster and John Quincy Adams are examples.

The motive is the masculine temperament. A woman having the features of this temperament will lack the rotund and symmetrical form, and the delicacy and quickness of mental activity, which are peculiarly feminine. But if she be well endowed with the other temperaments, with a preponderance of this, she will

possess the delicacy and sensitiveness of woman and much of the strength of man. All women who have been great in literature, in art, or in the world of action, have been women with strongly marked masculine features.

Boys and Girls in School.—This temperament is rare among girls, and when it occurs, unless it be accompanied by a good development of the other temperaments, it forms rather a hopeless case. It is not susceptible of much culture. Boys of this temperament are slow to learn and very restless under the confinement and petty tasks of the school-room. They long for out-door sports and work. Study is irksome to them, which makes it difficult to get them through the little tasks in the beginning of school life; but when they are once interested in History, Science and Mathematics, the studies which reveal the power in nature and man, they push their work with an energy that soon makes them the best and most reliable students in their classes. They care little for literature and art. Their organization is not delicate enough to appreciate these. To expect superiority from them in these studies is like expecting the quick movement and delicate touch of the skilled pianist from a blacksmith.

The teacher must labor patiently with these dullards until he gets them into more difficult work, when, if they have brains as well as bone and muscle, they will make sure progress.

Cultivation.—The Temperament is inherited but may be improved in those in whom it is deficient by a plain diet, consisting principally of cereals and lean meat, and by much vigorous out-door exercise.

Fig. 1 is a good example of the Motive Temperament.

The Vital Temperament.—The Vital Temperament is the physical condition which is the result of a preponderance of the nutritive organs in the organism. Large, well organized and healthy digestive organs,

Fig. 5.—Vital Temperament.

a strong circulation, good breathing, assimilating and excretory organs, keep the organism in repair and supply it with vitality, or life force. And where there is sufficient of this life force there will be great activity of every function. Size and perfect structure gives an organ the capacity for great work, but vitality is the force which separates the organ. A

person may have a magnificent brain, but when vitality ceases, it stops for want of a propelling force. A person may have a small brain and much vitality, then the brain is able to manifest all its power. The nutritive system may be compared to the engine in a manufactory. The coal is transformed into heat, the heat changes the water into steam, and steam furnishes the force which moves the machinery. Food and air are taken into the body, the food is transformed into blood, and from the blood is obtained the life force which enables the organs to perform their function.

The Vital Temperament gives activity to every physical and mental power.

Physical Characteristics.—When the Vital organs preponderate over the others in the organism, more nutrition is produced than is used. This is stored away in the form of fat. Every space in the body which can be spared is used as a receptacle of this surplus material. In consequence, the person becomes plump and rotund. The trunk is enlarged, the limbs are round and taper gracefully toward the small ankles and wrists. The hands are small and plump, the fingers tapering. The features are not prominent, but the face is round and full. The head is large in the basilar region, being full between and behind the ears. The hair is soft and usually of a light color.

All except the nutritive organs are usually free from disease and when there is a diseased condition of the nervous system, it is usually because of disease in some of the nutritive organs. When the nutritive organs are free from disease persons of this temperament are pictures of perfect health. But it is a mistake to suppose that because people are fat that

they are necessarily healthy. When the digestive and assimilating organs are strong, but the circulation weak, the person will be fat and pale. If there is added to this a weak action of the Lymphatics, it gives rise to the old Lymphatic Temperament. The flesh is soft and flabby and all the energies are weak, lazy and sleepy. If there be a torpid liver, the complexion will be yellow. The weakness of any of the nutritive organs will modify this temperament and produce quite a different effect on the mind from the healthy Vital temperament.

Mental Characteristics.—The healthy vital temperament overflows with activity and good feeling. It impresses one with the fact that it is full of life. It cannot remain quiet but must be moving about, doing something to work off the surplus energy. It is fond of all the physical pleasures. Exercise, rest, eating and drinking, sleep, and every animal gratification. It gives a warm and impulsive nature. Loves and hates with intensity, but is easily thrown from one mood into another. It is free from care and worry; for it possesses the felicity which only good health can give.

There is a disposition to avoid work which is hard and continuous. It likes activity and change. It will never tire of work which accords with its nature, but cannot take pleasure in work which requires close and hard application.

If the person be fat and pale and the flesh soft, it is caused by weak action of the lymphatics and the heart. The vivacity and enthusiasm of the healthy vital temperament are entirely wanting, and all the activities are sluggish and sleepy. Laziness is the

mental disease accompanying this physical derangement. There may be talent, but the languor of all the activities lulls them to sleep. In an educational point of view, one of these fat, soggy persons is as hopeless as the one who is all bones and joints.

Boys and Girls in School.—Boys and girls of this temperament are usually bright, and learn easily and rapidly. They, however, are so intensely fond of fun and a good time generally that it is difficult to get them to apply themselves to study. Make the school a kind of play and get them interested in their work and they become good students. Their propensity to have a good time is frequently too strong for them, and they leave school as soon as possible; the girls to enter society with all its pleasures; the boys to engage in some work where there is greater opportunity for activity and pleasure. Boys of this temperament are most given to the follies of youth. They are so full of animal spirits that they rush headlong into every pleasure. The activity and enthusiasm of this temperament is very valuable in the work of life and to turn them to good account should be the teacher's aim. Make a good man of one of these wild boys and you have done more good than by educating a dozen half dead ones, who can do neither good nor harm. Such temperaments lack depth of thought. Their work is all on the surface. They can make a good show of knowledge although they have but little. Their delight is in doing something and not in deep thought. They love the concrete, not the abstract. They dislike mental Arithmetic, but like solving problems on their slates. The teacher must profit by

this disposition and give them something to do that requires the use of the hand.

Cultivation.—Every thing which tends to increase the health will improve this temperament. Good food, sufficient exercise and rest, pure air and freedom from care.

Children who are deficient in it should be so reared as to develop it to the utmost: for in the degree in which they are deficient do they lack the life force which is essential to life's work.

The Mental Temperament.—The nervous system is connected more closely with mental operations than any other part of the organism. A preponderance of the brain and nerves gives rise to the mental temperament.

Physical Characteristics.—The most striking physical characteristics of this temperament are a large brain, particularly in the upper part of the cranium, the body is slender, the muscles are thin and soft, the features are sharp and delicately fashioned. The skin is soft and delicately organized. The hair is fine. The expression of the face is intellectual. The forehead is high and wide at the top, and the base of the brain is deficient.

When the other temperaments are also well developed, the fine classical face is accompanied by a well-proportioned body. But when they are deficient, the body is small and weak and the head too large.

It is the temperament that gives fineness to the organism.

Mental Characteristics.—The mental characteristics of this temperament are acute, active, intense, mental faculties. Delicacy of feeling and acuteness of

intellect. The tastes are active and the tendency is strong toward refinement and beauty. Such persons live more in the mental than in the physical world. Their desires crave that which satisfies the mental and emotional rather than the senses and the appetites. Although the minds of those of this temperament are very quick and sensitive, and though they possess superiority of intellect, taste and feeling, they are not always the best: for they lack practicality and force of character. They dwell too much upon the ideal and cannot appreciate practical affairs. They dwell too much above the clouds to be of much practical service in this prosaic, selfish business world. They can appreciate the abstract and the poetical, but not the real and distinctly human. They have genius in certain directions, but not enough common-sense for any calling which requires an accurate comprehension of things as they are in the world. They are speculative and dreamy, and not matter-of-fact and observing. A flight of fancy often has more weight with them than a stubborn fact. They become great in literature, theology and art.

Boys and Girls in School. — Children of this temperament are precocious. At ten years of age they are as mature as those much older. They are predisposed to study and to sedentary pursuits. Their mental nature needs to be restrained and their physical developed. A great mistake is made by parents by putting these children into school early and crowding them along as fast as possible, in order to give them a good education in childhood. They think that the child being so talented will soon reach a high position in literary pursuits. If the child is

not absolutely killed by over-study it never-the-less fails to accomplish what was prophesied by its early brightness. Its vital energies have been so dwarfed that the large and well-trained brain is like excellent machinery propelled by an engine of inadequate power. One can more safely predict a brilliant future for the dullard than for one of these over-educated, precocious children. Many children are hurried into their graves by being crammed to their utmost.

What they need most of all is to build up their bodies, their mental nature is too strong already.

They should not be confined in the school-room nor put to hard study before their bodies are quite well grown. Though they do not begin study before they are sixteen or eighteen, by the time they are twenty-one they will be ahead of the ordinary boy or girl that has been in school from six years of age. They should be taught to read, but should not be put to hard study. They need only what they can pick up, but everything should be done to build up the physical. Teachers should hold them back in their studies and not allow these nervous children to go any faster than the others of their age.

Cultivation.—Study and the culture of all the mental faculties, improves this temperament; where it needs restraint the mental activity must be permitted to remain at rest, and the physical should be cultivated.

Combination of the Temperaments.—The Motor, Nutritive and Nervous systems may be combined in a great many different proportions. The Motive, Vital and Mental Temperaments are combinations in which there is a preponderance of one of these systems over

the others. In a Motive temperament the combination is as follows, in a scale of 10: nutritive organs 7, brain and nerves 6, and bones and muscles 10. The Vital temperament is a combination of 5 of the motive, 6 of the mental and 10 of the vital. The Mental consists of 5 of the motive, 6 of the vital and 10 of the mental.

These organs also have different degrees of strength and perfection. All of them may be perfect in one individual. He then is a person of superior quality. So they may all be weak in the same person. Fig. 4 is the portrait of an idiot. In him, in a scale of 10, the motive temperament is 3, the vital 2, and the mental 1. This is the lowest type of man that can live. A combination of Motive 6, Vital 5 and Mental 4, is that of a person of very ordinary ability who can make a living by the simplest work. A combination ranging from 6 to 8, is that of a person who passes, in a comparatively large sphere in business or in the professions, as a man of superiority. But a combination ranging from 8 to 10, is a really superior person, one who by proper education will stand head and shoulders above the rest in the highest walks of life. He has all the qualifications, both mental and physical, to do all that man can do.

What Makes a Great Man.—To make a truly great man there must first be a high degree of all the temperaments. And there must be added to this a large and well-proportioned brain. Other conditions being the same the larger the brain the greater will be the mental power. A man who has a body of good quality and a brain of ordinary size will have a mind that is good as far as it goes. He may possess good

judgment, a clear intellect and be clever in many things, but he will lack depth, and his cleverness will not extend to great affairs. His acumen is all in affairs on a small scale. He may have a reputation among those who know him as being a very superior person, but let him measure strength with the great

FIG. 6.—Well-Balanced Temperament.

men of the nation and his smallness is apparent. Many a man who at home appears to be a wonder, attracts no attention and is lost in the Senate.

A large-brained man, if he have a body of size and good quality, may at home be looked upon as only an ordinary person. The greatness which is in him can not be brought out in the small circle in which he

moves. But when an occasion arises where great power is required, he will be found equal to the occasion; while the man of small brain and the better reputation will be found too light. Notable cases are Gen. Grant and Stonewall Jackson. Both were failures. Gen. Grant as a business man, Gen. Jackson as a preacher and college professor. But in the Civil War, when men of great power were wanted, many generals of reputation were found inefficient; these two men were found to have the mental greatness that could endure the weight of responsibility and direct great affairs with ease.

The small brain soon reaches the limit of its power, but the large brain can assume great responsibility, having that solidity, strength and profundity necessary to great achievements.

Effect of Temperament on Judgment.—It is well known that there are men of intelligence and moral worth who are yet incapable of exercising sound judgment. Others there are who are wrong-sided altogether. While others are on the right side of nearly all questions. The temperaments have more to do with this than even education. A man of an abnormal motive temperament may be a good judge in matters pertaining to railroads, but he is not, nor can he be, a judge of art or poetry. A man of an abnormal mental temperament will hold erroneous opinions concerning all practical matters. One of unbalanced vital temperament will be warped in judgment concerning matters which require those powers in which he is deficient. It is he who has a balanced temperament who is capable of the soundest judgment in all

matters. He is not warped by any excesses or deficiencies. His mind is a mirror in which nothing is distorted, but things appear as they are. His mind reflects the truth.

CHAPTER III.

BRAIN AND MIND.

Mind Defined.—Mind is the name applied to an aggregation of all those activities of man which enable him to think and know, to feel and to will.

It is a single concept composed of many distinct activities, each of which acts to a single end.

Faculty Defined.—A faculty is a distinct primitive activity of the mind. If it be intellectual, one of the knowing faculties, it gives the power to perceive a property of matter, or the relation of one thing, or idea to another.

Objects have properties such as form, size, color, etc. The mind has certain activities which perceive these properties. The faculty of Form can perceive form only; Color can perceive colors only. One of these cannot do the work of the other. The same person may have great strength in one of these faculties and be very deficient in others.

If the faculty be a feeling it gives a desire for some particular thing which will satisfy it.

The love for children is very different from the love of money. The love of one sex for the other is different from the love for home. A person may love the opposite sex and not love home. And the ability that one has to love home does not give him the power to love children. One faculty is as distinct from

another as seeing is from hearing. But it is the aggregate of these faculties that constitutes the mind.

A Power not a Faculty.—The term faculty must not be confused with the term power. Memory is a power of the mind, but not a faculty. Perception is a power, but not a faculty. Memory is a mode of action of all of the intellectual faculties. Perception is the work of many faculties, each having the power to perceive a particular thing.

Relation of the Brain to the Mind.—The manifestation of mind is accompanied by activity of the brain. So the brain may be said to be the organ through which mind is manifested. The function of the brain is to manifest mind. This is all that is at present known on this subject.

Huxley says, "How it is possible that anything so remarkable as a state of consciousness comes about as the result of irritating nervous tissue, is just as unaccountable as any other ultimate fact of nature." No one attempts to say how the brain manifests mind. That it does so is all that is known.

The Relation of a Mental Faculty to the Brain.—Each mental faculty being so different from every other one, it is not reasonable to suppose that the same nerve-centers may manifest activities so different. Even if we suppose that the brain matter which manifests one talent also manifests others. We must admit that the two talents will exist in like degree. And that the man who was most capable of fear can be the most courageous. The man who has a strong love for woman has the other domestic affections

equally strong. The man who cultivates his perceptive power is at the same time cultivating his reason.

Every one knows that men differ vastly from each other in their mental powers. No amount of education can make them alike. The same individual has different faculties in very different degrees. Nor can he make himself equally strong in all his faculties.

If we suppose that the brain is made up of as many nerve-centers as there are faculties, and that the function of each center is to manifest one particular faculty, it explains all difficulties. The difference in men's talents can then be accounted for by the difference in their brain structure. So the education of one faculty improves only that part of the brain and therefore does not improve other faculties at the same time.

It is a law in physiology, that if all other things are the same, the larger the organ the stronger is its function. The larger the muscles, the quality and training being the same in both, the larger one will be the stronger. The same is true with regard to the nerves. The larger the brain the greater are the mental activities of the animal. This law also holds good as to the relative strength of the different mental faculties. If all parts of the brain are in the right proportion to every other part the person will possess all faculties in the same degree. But if one part be deficient it will be accompanied by weakness of the faculty connected with that part of the brain. If one part be large it will be accompanied by greater strength of the faculty connected with that part. The skull is so thin as compared with the diameter of the brain, that it forms a small obstacle in determining

the relative dimensions of the different parts of the brain.

By observation this theory can be established or overthrown. If it is found that the strength of certain faculties is always in the same ratio in the same individual as the relative development of the parts of the brain with which they are connected, the theory must be admitted as true. Dr. Gall, a German physician, was the first to test this theory. He had the most extensive means of observation. When he learned of a person having a peculiar talent he made an examination of his head and took a cast of it. When he found a person who was deficient in this talent he likewise took a cast of his head and compared it with the one which showed the remarkable talent. In this way he proved the correctness of the theory and the location of the faculties in the brain, by thousands of cases.

Dr. Spurzheim also like Gall, a great scholar and one of the best physiologists and anatomists of his day, proved Gall's discoveries and himself added many new ones.

George and Dr. Andrew Combe devoted the best part of their lives to the advancement of this new mental philosophy.

Dr. Spurzheim added much by the classification of the faculties and by their proper analysis. J. Stanley Grimes, the author thinks, has made an improvement on Spurzheim. It is Grime's classification that is used in this book.

The author has for ten years made extensive observations among all classes of people, and can say in that time he is not found a case that would go to

prove the incorrectness of the claims of Dr. Gall, but has had a proof of them in every case. It is no longer a matter of theory, but is one of science and facts, and all that is asked is to test the truth by observation.

How to Estimate the Relative Strength of each Faculty.—The medulla oblongata is the center of the brain from which radiate nerve fibers in every direction except downwards. If something were passed from the opening of one ear to the other, it would pass through the medulla. We may then take the ear as a center. Distance forward from the ear indicates the development of that part of the brain. So, also, distance backward and upward. The development of the brain in the side of the head is indicated by the width of the head.

When all the parts are harmoniously developed, the head is nearly round and symmetrical. If a head is wider than it should be, to be proportionate, it indicates a preponderance of the selfish faculties. If it be longer in front of the ear, it indicates a preponderance of intellect. If very high, it indicates a preponderance of the religious and moral faculties. The observer must always remember to judge by the development from the center, and not expect to find protruberances; for they only occur when the brain immediately surrounding that part is deficient.

CHAPTER IV.

CLASSIFICATION OF THE MENTAL FACULTIES.

- Groups of Faculties.
  - Feelings.
    - Self-relatives.
      - Selfish Propensities.
      - Æsthetical.
    - Socials.
      - Domestic.
      - Governing.
      - Conforming.
  - Intellect.
    - Perceptives.
    - Reflections.

THE FEELINGS.

The feelings are those faculties which do not secure knowledge, but produce a propensity of a specific kind. Each one produces a certain impulse which becomes the motive of action. Man has implanted within him desires for certain objects. When these are active they incline the will toward the object which will gratify them. The desire is painful. The gratification gives pleasure. The craving for companionship becomes a pleasure when a friend is secured. The love for children gives a sense of pleasure when we have children to love, but the action of the same faculty is painful when the children are removed. This is the rule as to all the faculties, pleasure and happiness are produced by their gratification, and pain sorrow, grief, by non-gratification. The degree of

pleasure is measured by the strength of the feeling, and the degree of pain by strength of the feeling and the greatness of its deprivation. The mother who loves her child but little is not pained much at its

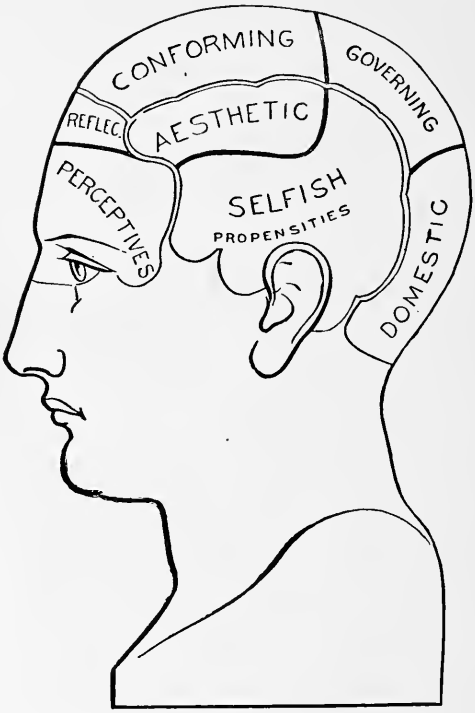


FIG. 7.—Classification of the Faculties.

absence, or even death; but she who loves much is greatly pained at its absence and almost distracted at its death.

Contentment results from a sufficient gratification

of all the faculties to the extent that the painful action is allayed. So contentment becomes the basis of true happiness; for the contented person is happy if he have only one feeling gratified to the extent that yields intense pleasure. The person who has not contentment has no basis on which happiness can be built. He may have a dozen sources of joy, he has also as many of pain.

The feelings are the main springs of action. He who has no desire for property will make no effort to get it. He who has no love of home will make no effort to provide one.

The feelings are the forces which move the will toward a definite course of action. They are classified according to the objects whose welfare they serve to secure, or the object toward which they direct action. The Self-relative are those feelings which serve to secure for self those things which are for the good of self alone. The Socials are those feelings which serve to secure that which is for the good of other beings and for self also. The Self-relatives can be gratified by one in complete solitude and require the existence of no other person. The Socials require the existence of another person and cannot be gratified except by actions toward another or received from another. The Self-relatives are entirely selfish. The Socials are both selfish and unselfish. Friendship is gratified by loving a friend and also by receiving the love of a friend. Friendship gives rise to two motives. One is the desire to love which is unselfish. The other is the desire to be loved which is selfish. Benevolence, the most unselfish of the Socials, is not wholly so. It prompts to deeds which give pleasure to others, yet to

do that is a higher sort of self-gratification. And the person who is kind feels more pleasure when a kindness is done to himself than does one who is not kind.

The Self-relatives.—The Self-relatives are those feelings which prompt the individual to preserve his own life, and to provide for himself, without reference to any one else, those things which are necessary to his own well-being.

The love of Life and Alimentiveness provide for the bodily wants. Combativeness and Destructiveness repel and destroy that which endangers life or interest. Acquisitiveness and Constructiveness prompt to industry in providing for future necessity. Cautiousness and Secretiveness give Watchfulness and Cunning; Ideality, Mirthfulness and Sublimity give a love for the beautiful, the proper and the great. Their tendency is to Self-improvement.

None of these feelings require the existence of society, but can be gratified as well in solitude. The part which they take in the interest of others is the result of a controlling influence of some social feeling. If a man give food to another it is because Benevolence has a controlling influence over Acquisitiveness. If a man fight for his friend, it is because some of his social feelings control the belligerent faculties and cause them to act for another.

The Self-relatives can be divided into two classes: The Selfish Propensities which prompt to securing those things necessary to the physical comforts. The Æsthetical faculties which give rise to taste and secure refinement and self-improvement.

The Selfish Propensities.—When the brain with which these faculties are connected is well developed,

the character will possess energy, aggressiveness, industry and force; those qualities which remove difficulties, overcome obstacles put down opposition, and triumph in the most difficult undertakings. Industry, courage, executiveness, caution and shrewdness are the products of these faculties.

When the head is narrow it shows a small development of these faculties and the person is noted for

FIG. 8.—Selfish Propensities. (Large.)

FIG. 9.—Selfish Propensities. (Small.)

mildness, inoffensiveness, unselfishness, a dislike for contention and a love for a quiet life, free from strife and turmoil. When very narrow the person is inefficient and is easily imposed upon, because he is wanting in shrewdness and the power to hold his own against an opponent.

In animals like the lion and the tiger these faculties are strong. In the sheep and rabbit they are weak. They are strong in all the persons who have become

noted for force of character. Luther, Napoleon and Cromwell are examples. They are deficient in persons noted for mildness of disposition and unselfishness. Melancthon and Channing are examples.

These faculties give rise to selfishness in all its forms and crime of every description, oppression, cruelty, theft, murder, gluttony and drunkenness. But they are also the source of power for good. Right must be maintained. Tyranny must be put down. The enemies of man must be destroyed. Nature must be subdued. Wealth must be accumulated. The battle of life must be fought not avoided. It requires much shrewdness and cunning to mantain the right as to perpertrate the wrong. It is these faculties that furnish the industry, the foresight, the courage that build and operate the railroads, that build the ships and brave the terrors of the deep, that enforce law, that mantain the home and the nation, that enslave nature and liberate man.

In their power for good these faculties hold no inferior place, for it is only through them that justice, virture, charity and freedom are possible. But they are only the workmen—the police, the soldiers of the mind. They must be made to remain the servants of Love, Justice and Reason. It is when they become masters that they do the wrong.

The aim in their cultivation should be to train them to vigorous work in the interest of justice, mercy and love.

The nerve centers with which the selfish propensities are connected are located in the middle lobe of the brain. And when largely developed give width and fullness to the side head, as in Fig. 8. When they are

small the head is narrow between and above the ears, as in Fig. 9.

The Æsthetical Faculties.—The Æsthetical faculties are those which give a desire for and appreciation of the beautiful, the great and the congruous. They give taste and refinement. They prompt to the improvement of self and surrounding in accordance with the laws of proportion and harmony. They seek the perfect. Refinement, art and poetry are the results of these faculties.

FIG. 10.—Æsthetical Faculties. (Small.)

FIG. 11.—Æsthetical Faculties. (Large.)

The nerve centers are located in the brain at the upper front part of the side head. When well developed they give width to that part, as in Fig. 11. When small the head is narrow in that region, as in Fig. 10.

The Socials.—The social faculties are those which depend upon other beings for their gratification. They adapt man to live with his fellows, enabling him to give and to receive benefits by so doing. They har-

monize the individual lives of many and make possible the co-operation of many to secure a mutual good. They give rise to the family, to society and the state. They unite all men into a common brotherhood.

All knowledge whether of science of art, of religion or of government, is an outgrowth of these feelings. Men delve into the earth, explore the heavens and the sea, establish homes, schools, churches, commerce and government, because by these they can benefit others and themselves. It has been quite impossible to civilize the American Indian, for he has so little of the social nature that the ways of civilized life have no attraction for him. His notions of the domestic relation are of the crudest sort. His passions, not being refined by the higher social feelings, such as kindness, reverence, nor acted upon by a poetic imagination, are exercised only in the animal way.

The savage Greek felt the promptings of the higher social impulses and the inspiration of a poetic imagination. These raised him above mere animal gratification upon the higher plane of civilization which was more conducive to his happiness.

The Socials divide themselves naturally into three classes: The Domestic, the Governing and the Conforming or Religious. This is also the order in which we find them developed in animals passing from the lowest to the highest. Only one or more of the domestic group are found in the lowest. All are found in the highest.

Amativeness attract male and female to each other and secures the perpetuation of the species. The love for the young marks a higher type. The gregarious instinct is still higher and causes them to

live in communities. This requires a system of subordination to a controlling power in order that all may act for the common good. Government is secured by the Governing group.

Self-esteem gives self-confidence and leadership. Firmness gives stability. Approbativeness gives the desire to please, and Conscientiousness gives the sentiment of justice and equity. It is in man that these reach the highest activity. The Conforming or Religious group is peculiar to man. Some of the faculties are possessed by the animals, but their influence is hardly perceptable.

The beauty of this classification and its correspondence to facts in nature is a strong argument for its truthfulness, were there nothing else to support it. All the faculties which are related in function are grouped together. This is not because the classification and grouping were invented, but because they were discovered. The principal groups are connected with the principal divisions of the brain. Those faculties which are most necessary to the existence of the animal are found at the base of the brain and this part of the brain is found in all animals that have a brain. As we pass up the scale of mental superiority in the animals we find additions to the upper part of the brain. The difference of man's brain from that of the highest animals is in this, that its upper parts are relatively greater. How striking is the fact, that Causality the highest of the Intellectual faculties, Ideality and Mirthfulness the highest of the Self-relatives, and Faith the highest of the Socials, are located at the upper part of the front head, where the heads of savages are most deficient!

The Domestic Propensities.—The Domestic Propensities are located in the cerebellum and posterior lobes of the brain. When they are well developed, the head is long and wide from the ear backward. When deficient the head is short and narrow behind the ears.

The family, society, and the state are the products of this group. These feelings impel men toward each other and causes them to co-operate in the work of life. They are instincts which man has in common

FIG. 12.—Domestic Propensities. (Large.)

FIG. 13.—Domestic Propensities. (Small.)

with the higher animals, but being acted upon by the higher feelings they are refined, and it is this that elevates the social instincts of man above those of the brute.

When all the faculties are strong, the person has all the domestic feelings: the love of the opposite sex, the love of children, the love of home and friendship. He will therefore enjoy the domestic relations and society, and will be miserable without them. When

they are weak the person finds no enjoyment in domestic life and society; will make few or no friends who share his confidence, but will love best a life of solitude.

The Governing Group.—This group of faculties is located in the brain in the upper back head. When largely developed the head is from the ear upward and backward.

They are named the Governing faculties because

FIG. 14.—Governing Group. (Large.)

FIG. 15.—Governing Group. (Small.)

their function is to secure the control of others. They give self-confidence, stability of purpose, the desire to see the right prevail and the desire to please others with ourselves. They give aspirations for honor, power and the right.

When they are deficient, the person is diffident, unstable and wanting in ambitions; unable to become a leader, but is always your humble servant.

The Conforming or Moral Sentiments.—These are located in the upper part of the brain. When largely developed, the head is high and full above the ears. These are the faculties which are most peculiar to man. As their name indicates, their tendencies are to make man conform to whatever is right and to the will of others.

The domestic propensities make it possible for men to work together.

FIG. 16.—Moral Sentiments. (Large.)

FIG. 17.—Moral Sentiments. (Small.)

The Governing faculties give man the power to control his fellows, and the Conforming faculties make it possible and a pleasure to submit to what is best for the general good. Veneration gives the feelings of respect and reverence, and these feelings produce submission. The sentiment of this impulse is, "Thy will, not mine, be done." Benevolence creates an interest in those who can appreciate kindness and

seeks to give pleasure to them. Its sentiment is, "Love thy neighbor as thy self." Hope reconciles the mind to what now exists, and makes us believe that better things await us in the future. Faith prompts us to believe the testimony of others. Imitation enables us to be in sympathy with another and thus adapt ourselves to him. Religion is the outgrowth of these faculties. The essence of every religion is submission.

When the head is high and full, the person is disposed to be moral and religious. Loves humanity and the right.

When the head is low, it indicates deficiency in these higher feelings, and the person will not have impulses which cause him to do his duty to others.

THE INTELLECT.

The intellectual faculties are those which give man knowledge of external objects and of his own internal sensations. They differ from the feelings in this, that the feelings seek some object or action which gratifies the craving which results from their activity. The Intellect seeks the Truth. It gives the desire and much of the power to know things as they are. The feelings seek pleasure, and the kind of pleasure depends upon the kind of feeling excited. The intellectual faculties seek the truth about all things, and the kind of truth sought for depends upon the faculty which is active. As these faculties differ in activity and strength will the mind differ in its power to master certain truths, whether of objects, mathematical, historical or philosophical. Without knowledge of a thing we cannot tell whether it will affect us favorably

or unfavorably. We cannot tell whether a certain act is for our good or for our hurt.

The child must learn whether fire, water and everything with which it comes in contact, are conducive to its happiness. Men must learn when it is productive of good to follow certain impulses. So while the feelings are the forces which lead to conduct, intellect must determine whether that conduct will be injurious or not. The intellect is the light of the mind and when the light is dim, because there is no truth to feed it, man walks, as it were, in darkness not knowing what road to take to lead him to his good.

Man seeks to realize happiness, and if he knows what produces it, he will be sure to get it. To do the right is for man's highest good, and to do wrong is always destructive of happiness. If a man knows this, and knows the right from the wrong, he will certainly do the right. If we wish to save a man from the wrong we must enlighten his intellect with the truth. Yet an enlightened intellect is not enough to make man do the right. The feelings have most to do in forming the will and the intellect is but the servant of the will. It will furnish power for an evil deed as well as for a good one.

We will take as examples two men, both endowed with strong intellectual faculties and possessing complete knowledge of all things about them.

They understand human nature and can read the character of men. They are masters of the laws of nature and know just what to do to produce the result that they wish. In anything which they undertake they will not be restrained in any way by a lack of knowledge. They have the power to do what they

wish. The character and conduct of these men will depend upon the feelings or passions that prompt them to action.

One is by nature selfish and is not actuated by the higher feelings of justice and the love of his fellow-creatures. His great power resulting from his knowledge will be employed in gratifying his baser passions. He will become noted as a great and most powerful criminal. He is only the worse in possessing much knowledge.

FIG. 18.—Perceptives. (Large.)

The other is a man actuated by justice, reverence and love of his fellow-man. His vast knowledge will be used in gratifying these impulses, and he will do wonderful things in spreading happiness abroad.

The frontal lobe of the brain is the seat of the intellect. The development of this lobe gives length, height and width to the forehead.

The faculties divide themselves into two classes: the Perceptives and the Reflectives.

The Perceptives.—The perceptive faculties are connected with the lower part of the anterior lobe of the brain. Their relative strength is indicated by the prominence of the forehead just above the eyes. That is by length of the forehead from the ear. The perceptive faculties may be divided into two classes:

Those that comprehend the qualities and properties of objects.—Individuality comprehends the existence of objects. Form gives the idea of configuration. Size gives cognizance of space and dimension. Weight

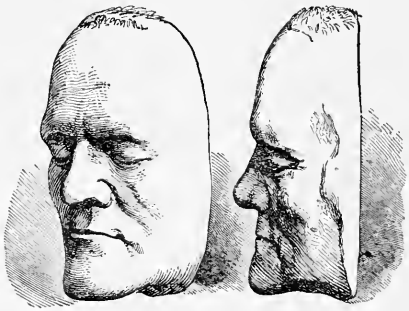


FIG. 19.—Reflectives. (Large.) Franklin.

perceives momentum, resistance and weight. Color perceives hues.

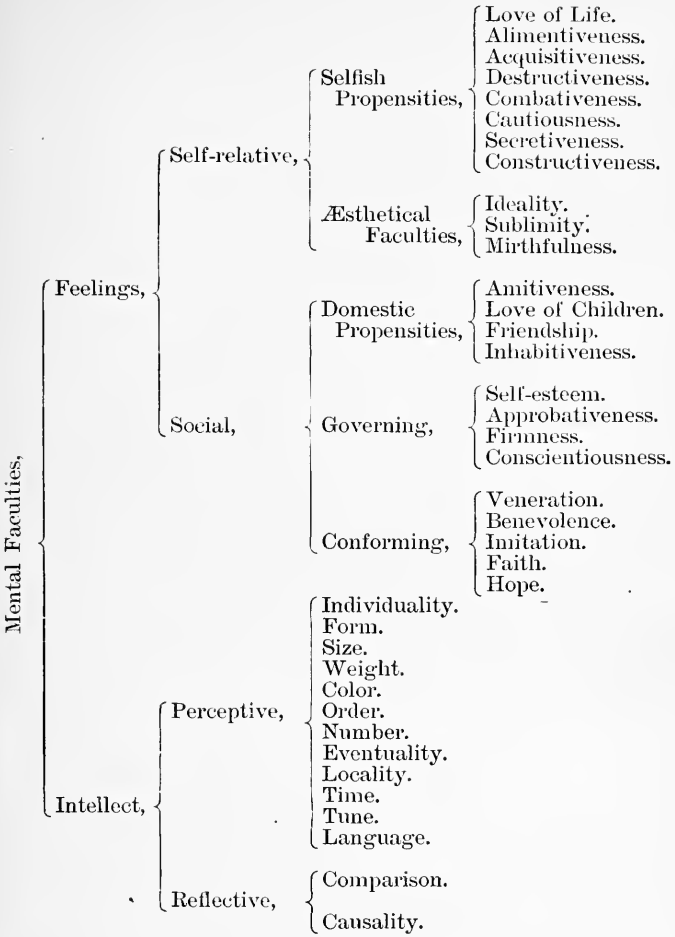
Those which perceive the relation of objects.—Eventuality takes cognizance of actions and events. Locality perceives the relative position of objects in space. Time gives the idea of duration and perceives the position of events in time. Tune perceives the relation of sounds. It is the sense of harmony. Number perceives the divisibility of matter and gives the power of computation.

The Reflectives.—The Reflective faculties are connected with the upper part of the anterior lobe of the brain. When this is large it gives length to the head from the ear to the upper part of the forehead. Comparison contrasts one impression with others and recognizes likenesses and differences. Causality perceives the relation of cause and effect. The ideas obtained by the perceptive faculties are the objects which excite the reflective faculties. The Perceptives furnish the mind with all the facts concerning external objects. The Reflectives compare these facts and from them arrive at other truths. The Perceptives gather truth from the external world. The Reflectives enable the mind to look in upon itself and gather knowledge from its own workings and thus arrive at higher truths.

CHAPTER V.

ANALYSIS OF THE FACULTIES.—SELF-RELATIVES.

FIG. 20.—Relative Location of Faculties.



SELFISH PROPENSITIES.

Love of Life.—It is a well known fact that persons cling to life with different degrees of tenacity. Some

would rather live in torment than to cease to be; others rather than to bear the ordinary disappointments of life will put an end to their existence. This faculty gives the desire to continue existence for its own sake. It desires life as an end and not as a means. Some have no dread of death and find no joy in mere existence, but they desire to live that they may provide for children or that they may accomplish some other purpose. Life is the most valuable of man's possessions, and he is given a strong propensity to preserve it, that he may appreciate its value.

Hope, or the expectation of future good, combined with the love of life, gives all men an instinctive belief in the immortality of the soul.

It is a wise provision of nature that this faculty is most active in youth when life is most in danger, and most desirable because all the good of life is yet to be realized. In old age the desire to live grows continually weaker until man has accomplished his mission, when it ceases and death is a welcome visitor. To youth the thought of death is terrible, to old age it is as soothing as the thought of sleep to the tired mind.

It is inhuman cruelty to excite this faculty to painful action in children by keeping before their minds the terrors of death. Many a child's life that might otherwise have been sweet, has been made bitter by well meaning parents, who think children must be taught the terrors of religion lest, the children's souls be lost!

Premature death results from transgressing physiological or physical laws and is not a punishment for moral transgression. So children should be taught to care for their lives; but to teach them that it is an awful thing to die because of what follows death, is to teach

them what can do them no good, but will do only harm. In the light of day and among companions, when the dread of death or of future punishment is not active, such teachings do not restrain from wrong doing. It is in the night and when the child is alone that he is tortured by fear. The next day the fear is gone and the child goes on as before. The effect is to make the child a coward and a hypocrite.

How can a child love God when it believes that for the little wrong it has done He will throw it in the fire and keep it there forever! The child knows it is wrong not to love God, and should you ask whether it did love God, it would say yes, when the truth is it does not. Who can estimate the suffering that has come to the tender hearts of children by such teaching? Alone in the silence of midnight, the awful thought of death and the tortures of the damned, presenting themselves as realities to a child give such terror and pain as never come to riper years. Childhood is the time when joy is unalloyed and love is tender and sweet. A childhood warmed by the sunshine of joy and refreshed by the dews of beautiful love, will grow up into a rich manhood and womanhood. So let the teachings of childhood be such as will awaken joy and love, that will banish fear. Let children know that we love them, that God loves them. Then will they love us and love the Giver of all. They will do the right or that which will please the objects which they love, because love is the only pure fountain from which clean conduct can spring.

Persons who have this faculty strongly developed will struggle against disease and by force of will they live when all hopes of their recovery have been des-

paired of by friends and physician. Those in whom it is weak have a slender hold on life and succumb readily to disease.

Alimentiveness.—*Location.*—This propensity is connected with the anterior convolution of the middle lobe of the brain. When this part of the brain is developed it gives width to the head just in front of the upper part of the ear. Fig. 21 shows it well developed. Fig. 9 shows it small.

FIG. 21.—Alimentiveness. (Large.)

Function.—Alimentiveness is the propensity to take food and drink. It compels one to take nourishment whenever the system requires it. Persons with it strong find great pleasure in eating and drinking; while those in whom it is weak take sufficient to nourish the body, but take no particular pleasure in eating. It matters nothing to them whether the food be plain or the finest variety. The pleasure which they receive is about the same in each case.

Training.—The training of this faculty enters very little into the work of the school teacher; but the evil results from its wrong training are so great that a few words here will not be out of place, if they cause the teacher to do what he can to give right instruction upon this important subject.

Nothing is more forcibly taught by nature than that every power of mind and body should be used only to obtain the objects which these powers are to secure. Appetite should be exercise to supply the wants of the body. To use it for any other purpose is to transgress a law of nature. If the appetite be indulged beyond the requirements of the body, ill-health is sure to follow.

While in all cases it may not bring bodily illness it will certainly have an injurious effect on the mind. The laws of the appetite are: To take nourishing food; to take it in quantities sufficient for the use of the body and no more; to take it at proper intervals; to take it regularly. To transgress any of these laws impairs a healthful action of the vital organs, and imperfect action of the vital organs impairs the nervous system, and this causes an imperfect action of the mental faculties. The intellectual faculties are befogged, clear thinking becomes impossible. The animal propensities act spasmodically and the person becomes peevish, ill-tempered and unbalanced generally. While living up to these laws and other laws of health the mind is clear and the disposition amiable and happy. Improper eating is more-often the first step toward ill-health than any other. When the bodily functions are deranged by improper eating, it gives rise to a strong craving for

stimulants: for stimulants counteract this painful action and for a time soothe the irritated nerves and the person no longer feels the pain. The next time stronger stimulants are required to produce the effect, and after a time he becomes a slave to their use. The seeds of intemperance are sown at home in infancy and youth. Among the poor by the want of proper food, among the rich by pampering the appetite. If the child can be brought to manhood with an appetite which was never perverted by improper eating, there will be no craving for strong drinks, and an appetite for them will be hard to establish. But a boy or young man whose body and mind is unbalanced and feverish, the result of improper eating, is almost driven to strong drink to quiet the restlessness and painful action of his system. The following from "How to Educate the Feelings," by Charles Bray, is to the point:

"A common practice seems to be to make the enjoyment of eating the grand ultimatum. It is held out as the strongest inducement to 'behave well'; it is the promised reward of obedience; it is the convenient resource of the nurse to 'keep the child quiet'; it is the bribe of the friendly visitor to gain the child's attention; it must furnish occupation to the child when its restless attempts to acquire a knowledge of things around it are troublesome. The very infant's tears are assuaged by anticipations of the 'nice pudding' that is coming; its own impatience is heightened by the affected impatience of the nurse, who excites instead of allaying the eagerness for selfish gratification. If, in addition to all this, children continually see their elders taking anxious 'thought what they

shall eat and what they shall drink', can it be wondered at, that they should over-rate the importance of the pleasures of the appetite and that such lessons should seldom be unlearned in after-life?

"Sweetmeats and other delicacies are indeed a common reward for good deeds, and a denial of them a common punishment for the sins of childhood. The mischief arising from this is not only the training of children to be gluttons and epicures, which it must infallibly do by making the gratification of the palate of such paramount importance; but a greater evil is to be dreaded—the weakening of the moral sense by supplying an unworthy and temporary motive to obedience when a higher one alone can be adequate and permanent. An example may illustrate this. Mrs. —— was very anxious (as every right-minded mother must be) that her child should be religious, and no pains were spared to make him so, as will appear. The boy (not four years old) was brought down to dessert. In due course the nurse came in to take him to bed, when this conversation took place: Mamma—'Oh, yes—now *be* good. Show Miss such-an-one how prettily you can say your prayers.' (Silent, pouting lips.) M.—'Come now, you don't know what grandmamma has for you!' Boy—'What?' M.—'An orange!' Grandmamma—'There's Shamrock (the dog), make haste, or we'll get Shamrock to say pretty prayers.' M.—'Yes, dear, now do—because of the orange, you know. 'Will it be believed that this chattering had the desired effect upon the boy? Worked upon by greediness and vanity, he lisped the Lord's Prayer in a sulky, muttering manner, was called a good boy, and went to bed,

but *without the orange.* When he asked for it, 'to-morrow' was the answer. Here were lessons in plenty; here, in five minutes, were inculcated impressively greediness, stupid surrender of the understanding, vanity, lying and hypocrisy.

Acquisitiveness.—*Location.*—Taking the top of the ear as the starting point, and passing upward one

FIG. 22.—Acquisitiveness. (Large.)

inch, then forward one inch, we will find the point on the head, at which it is widened by the development of this propensity. Fig. 22 shows a large development of the brain at this point.

Function.—Acquisitiveness gives the sense of property. It is the desire to provide the means for gratifying the other faculties. Those in whom it is

strong are disposed to be industrious and to provide for future wants. Those in whom it is weak have little desire to lay up stores which will be required in the future, they possess little skill in financial matters, they indulge their tastes and feelings to the extent of their means, but do not exert themselves particularly to provide other means; if they have money they spend it freely for good or bad purposes as their impulses prompt. They have no impulse to gain wealth, or to keep it when they have gained it. This faculty gives industry in obtaining those things which can be used, and also economy in their use. It gives a desire to possess any kind of property which will contribute to happiness, but money being that with which most other things can be obtained, is the primary object for which acquisitiveness strives.

In some of the animals this propensity is strong, the ant, the bee and the squirrel are examples; the hen eats what she wants, but makes no provision for the morrow; the little squirrel stores what food remains in a safe place for future use. Animals have few wants which can be gratified by property, so they are content when they have a nest and food. Man who has so many wants, has a higher degree of this faculty to make him more industrious in laying up a store. All the pleasures derived from books, from knowledge, from art, from society, from honor and from fame, are to be obtained directly or indirectly with money. It is therefore not strange that in this age the great impulse that moves the world is the desire for money.

It is said that the love of money is the root of all evil, but it should be remembered that it is the root of all good as well; without the ability to accumulate

wealth the greatest genius is lame and to him the path of progress is closed. To the poor man every door is locked and can be opened only with golden keys. Money is king and rules the world. Let a man have a reputation for any excellence and let it be known that he is poor and at once he falls far down in the estimation of the world; but let it be understood that he is very rich, and the world is his humble servant. It is not because people are governed by unworthy motives, for it is natural and right that they respect wealth or, rather, what it represents. Wealth is an essential force in the production of good and happiness.

Cultivation.—Wealth is to be obtained as a means to increase human happiness. Men should get rich to live and not live to get rich.

The right training of this faculty consists in reducing these principles to practice. Men should get all the wealth which they can honestly, but they should be careful to use it in a way that will bring the greatest good to themselves and all mankind. For a man to hoard away his thousands is as wrong as for a man to get all the grain of the country and let it rot. The cry against rich men is all wrong. The millionaires who build and operate our railroads and other great industries are not surpassed by other benefactors of our race. The great danger lies in seeking riches too eagerly. The impulse to get rich becomes so strong as to overrule all others. Then greed extinguishes every generous impulse and the man becomes close-fisted and miserly. He becomes penny-blind and is unable to see that which is purest, truest and best.

To love husband or wife, home and friends, children and all mankind; to possess wisdom and knowledge:

to appreciate music and poetry; to be susceptible to the beauties in nature and in art; are the ends to be sought in life, for they are the sources whence comes our truest happiness. When riches are sought that we may secure these ends to ourselves and to others, it is the legitimate action of Acquisitiveness.

The activity of this faculty can be observed early in the child. It soon has an idea that a certain thing is it's own. The feeling should be encouraged by permitting it to have its own playthings, treasures and money. Especially should it be trained in some way to earn that which it would possess and to exercise care in its preservation.

On the farm each child should have its sheep, calf or chickens, and they should belong wholly to the child, and the natural increase should also belong to it.

The care and management of these should be given over to the child as far as practicable. A piece of ground might be given to the boy. Let him sow the seed, cultivate, harvest it and sell the produce; let him either pay for the help which he must have by returning work to the father or to whomever helps him, or pay for it in money when the harvest is sold. When the boy reaches his majority he will have several hundred dollars of his own. But best of all, he will possess habits of industry and economy which make his prospects for a successful life certain. Some men keep, or have the boys to keep, a strict account of the time that they work, and when money is to be spent for clothing or pleasure that is taken out of their wages.

The point is to let the child do business as soon as possible so that business habits may be formed.

The reason why rich men's sons soon run through with what they inherit is, that they lack this business training; their wants have always been supplied and the business part of their natures have never been developed. While the boy who makes his own living cultivates those powers which enable him to get the wealth which is squandered by the rich.

Faculties which are strongest in any given mind work together and these give different characteristic in different persons. Acquisitiveness, strong, combined with strong Hope and Combativeness, gives enterprise; combined with small Hope, strong Cautiousness and Secretiveness, gives a tendency to penuriousness and great caution and secrecy in money matters—better small profits in a sure investment is the motto of such a character—combined with Conscientiousness, it makes the person honest, but close; with Approbativeness, it makes the person vain of his riches; and with Benevolence, it makes the person use his money for the good of others. Such was the character of Mr. Peabody, whose name has become a synonym for large-hearted generosity. The same is true of Peter Cooper.

Destructiveness.—*Location.*—The brain devoted to the manifestation of this impulse is situated just above the opening of the ears. When developed it gives width of head in that region, as in Fig. 23. When undeveloped the head is narrow at those points, as in Fig. 24.

Function.—Life is a constant struggle against forces which tend to destroy us. We have to compete with those of our own kind for the means of existence and happiness. Nature is seemingly against us.

Heat and cold, floods and draughts, and all the elements war against us. Cautiousness is given us that we may avoid dangers, but this is not sufficient in all cases. We cannot avoid all dangers, nor can we secure those things which are necessary to our well being by remaining passive. We must meet the foe and overcome him. The soil, the ocean, the air, the lightning, the heat of summer and the cold of winter, must be subdued and made to do us good

FIG. 23.—Destructiveness. (Large.)

FIG. 24.—Destructiveness. (Small.)

instead of harm. To be able to do this we must have within us a force which will give us the power and make it a pleasure to grapple with what is hurtful and destroy it.

The faculty under consideration gives the power to destroy. It takes pleasure in tearing down whatever is undesirable, it gives energy in aggressive movements, executive ability in business, and thoroughness

in all kinds of work. The kindly feeling which we have for creatures which can experience pain prevents us from inflicting it, but Destructiveness counteracts sympathy and enables us to inflict pain with good or bad intentions. A pre-dominance of this faculty over Benevolence, makes the person harsh, severe and cruel. It is an element in anger and gives to it the destroying quality; it gives edge to satire. Persons with it strong are apt to be very severe in their condemnations. The desperado manifests it in murder and burning; the business man, in overcoming all obstacles; the statesmen, in tearing down that which impedes national prosperity; the preacher, in attacking sin in every form.

When the faculty is deficient, the person is mild and wanting in that aggressiveness which overcomes all opposition; if a business man, he lacks energy; if a statesman, he will try to avoid trouble and will try to settle all things peaceably; if a preacher, he will do good but will not be an aggressive reformer.

Training.—This is one of the lower propensities and should therefore be exercised only to carry out behests of the higher faculties. If exercised for its own gratification, it leads to cruelty; if made the servants of the higher ones, it becomes a powerful agent for good. Good intentions without the power to remove evils, which prevent their reduction to practice, are almost useless. The teacher should seek to enlist this faculty in the interest of truth and justice.

Children must be impressed with the fact that rage, revenge and cruelty are wrong and disreputable; when the feeling is excited the teacher should appeal to the child's kindlier nature. By touching a child's

sympathy it can be made strongly to regret a deed of harshness and cruelty. By inflicting pain the feeling is only excited still more.

Combativeness.—*Location.*—This faculty is connected with the part of the brain which lies about one inch back of the top of the ears. When developed the head is wide and full in that region, as in Fig. 25. When deficient the head is narrow there.

Function.—This is the faculty which gives the propelling force to character. Those who have it strong

FIG. 25.—Combativeness. (Large.)

are active, not passive. They feel an impulse to push ahead and triumph over difficulties and danger. It makes a person contentious, pugnacious, quarrelsome and fond of disputes. When weak, it makes the person passive, averse to contention and incapable of active, forward movement against opposition of any kind. It gives rise to courage, bravery, impetuosity.

Combativeness and Destructiveness both enter into the state of mind which we call anger. The

quality of anger depends upon which of the feelings is most excited. Combativeness is aroused by thwarting some purpose which we cherish. A person whom we love may oppose us, the impulse to triumph over him arises, but the feeling is pure combativeness. We feel no desire to injure our friend, yet we are angry. We have the will and the courage to meet him and overcome him, but no desire to injure him or to inflict pain. Combativeness desires conquest or victory; Destructiveness desires extermination. Destructiveness leads to cruelty, malice, revenge. One may be brave and not revengeful; one may be malicious, revengeful, and not brave. Some of the most bloodthirsty men have been the most despicable cowards. Some of the most courageous have been the most generous and kind. The two faculties work together; the one makes us capable of attacking what is hurtful to us, the other gives us the power to destroy that which is hurtful.

The influence of this faculty upon character is very great. Whether the possessor of a large degree of it will be worthy, depends wholly upon the relative strength of the other faculties. The one who is deficient in it lacks a power that cannot be atoned for by any other virtue. Though he may never be brought into a situation where it will be clearly manifest that he is deficient in courage, yet all his other powers will be as useless to mankind as are all the good points of a war vessel without a brave captain to command her.

A person deficient in the moral faculties and having a low organization, strong body, Destructiveness and Combativeness large, will be a brawler and fighter. Combativeness combined with Intellect, gives a love

for controversy and great industry and activity in gathering knowledge; with Self-esteem, he will be tyrannical and domineering; add to this Approbativeness, and he will be ambitious to gain notoriety and very sensitive to criticism. Combined with Firmness, it adds impetuosity to determination; with Conscientiousness, it gives moral courage and great activity in overcoming all obstacles that the right may prevail; with Benevolence, it combines courage with generosity and gives a love for fighting battles for the weak and oppressed; with Secretiveness, it adds cunning to courage and there will be a disposition to triumph by strategy; with Secretiveness, small, it combines frankness with courage. Such a man's plans will be frequently defeated, because of the lack of discretion. When combined with small Cautiousness, there will be recklessness; with it strong, there will be a proper combination of caution and courage.

Combativeness lends force and efficiency to every other power of the mind. And whether Combativeness shall be a power for good or evil depends upon the controlling influence exercised by the other faculties.

Training.—It is when this faculty is exercised for its own sake, or when exercised in connection with some of the lower feelings, in opposition to the higher feelings, that it produces evil. Its training, therefore, consists in awakening the more worthy motives to become leaders of this one. The teacher should awaken the love of knowledge and seek to infuse courage into that. He should lead the child to overcome all obstacles in the way of a good education or

of a noble and useful life. If the faculty acts in conjunction with the lower faculties, the teacher should show that such motives are *enemies* to the pupil's best interests and thus the child will turn Combativeness against these unworthy and injurious impulses and will battle for the better feelings. We should never forget in training people that the forces which will bring about a reformation are within them. The duty of the teacher is to set the proper forces to work. Combativeness is one of these forces and the teacher or parent has occasion to rejoice when he observes a good degree of it, although it may be turned in the wrong direction. There is no reason for rejoicing when there is weakness of this faculty, for though the child may be docile and obedient, it does not take long to discover that it is lacking in manly spirit. It is sadly weak where in this world it should be strong. If you have a child that gives up every task that is difficult and is always saying, "I can't do it," seek to awaken its Combativeness. This can be done by giving it such tasks as it can do, when encouraged by one victory give a little harder task and so keep increasing the difficulties, and by appeals to pride, love, sympathy, ambition or whatever motive is strong, you will awaken this faculty and cause it to grow stronger.

It is unfortunate for the teacher when he himself is endowed with too large an amount of Combativeness, Self-esteem and Approbativeness, for then he is as sore as a boil. He will believe that everything that is done by those whom he suspects of not liking him is a thrust at him, and he will have such hatred for them that he cannot do his duty toward them. The remedy

for this difficulty is first to know that most of these things arise from over-sensitiveness on his own part. He should seek to cultivate more love towards all men and try to forget his own grievances.

If he finds a pupil of this unhappy disposition he should exercise the utmost patience, meekness and charity toward him; come to an understanding with him, and show him that his suspicions are groundless.

The teacher must be especially careful not to display this faculty too prominently; for when it is excited in another it immediately becomes so in us. So the teacher must speak in tones of kindness and love and not in those of anger. No good ever comes from over-riding a child's resistance, when bringing some other motive into action will effect the change. The child's will should not be broken, but should be turned in the right direction. Suppose a pupil did not conform to the teacher's wishes in a matter of minor importance. The teacher by superior force makes the child conform. Very little is gained and much harm may be done. But suppose the teacher keep him in after school, talk to him kindly, showing that the requirement was just and necessary to the good of all; that it was not for the teacher's good alone but for all; then say, "I know you will now do as I want you to; for I would do any favor for you that you wish." Talked to thus in kindness and confidence the child will obey willingly. This victory will be of great value to him for his better nature has triumphed over his baser one.

Cautiousness.—*Location.*—The brain with which this faculty is connected is located just under the middle of the parietal bones. When large it gives

width to the upper back head, forming corners where the head rounds off toward the top and back. See Figs. 20 and 26.

Function.—Cautiousness is the propensity to seek safety and to avoid danger. It is the instinct which urges upon the mind at all times the importance of watchfulness and care, lest injury befall some of its

FIG. 26.—Cautiousness. (Large.)

interests. When powerfully excited it gives rise to fear and terror. It being a feeling it is not under the direct control of the will. Often it is active and we feel fear and dread when there is no danger. Few people believe in ghosts, yet many of them experience fear at night in dark and lonely places. Combativeness is to a certain extent a love for danger as it is gratified in meeting and overcoming it. So that animals and men are likely to run into dangers which

will be their destruction had they not an impulse to restrain this dangerous action of one of their other faculties. The mastiff in his eagerness to engage the bear runs headlong into sure destruction. People who are deficient in cautiousness are always in trouble, caused by recklessness, meeting with accidents and losses. Every one except they themselves can see that it is all the result of carelessness.

When the faculty is too strong, combined with weak combativeness, it produces vacillation, procrastination and want of decision to act.

Cautiousness acts with the other faculties. With large intellect it gives soundness and accuracy in investigation. With Cautiousness small there may be great intellectual power, but a want of reliability. With Self-esteem it produces watchfulness in regard to one's dignity; with Approbativeness, carefulness as to appearances and reputation; with Acquisitiveness, great care in money matters. Deficient Cautiousness and excessive Combativeness make a man rash; the reverse makes him a coward.

Training.—Cautiousness exercised in avoiding real dangers is of great use to the mind and an excellent trait of character, but when used to avoid disagreeable things, especially those which the highest faculties require to be met, it becomes hurtful to good characters. When it is very strong the greatest care should be exercised with children that they never become afraid to do the right regardless of consequence. Put a premium upon courage and not upon cowardice. Let a child know that it has nothing to fear in telling the truth. A popular lecturer has said, that he was glad that nature had made it possible for

a child to throw up a breastwork in the form of a lie to protect it from an enraged superior. Punishment administered as punishment, does more harm than good. It makes the child, which might otherwise be noble, a selfish, cringing hypocrite. Teach the child to be fearless and manly. This can be done by ruling it by love, conscience and self-respect. By thus bringing these motives to the front in childhood; in manhood when the noble faculties become still stronger, good conduct, noble and manly characteristics, become natural.

One of the greatest difficulties which a teacher has when going into a new school is to overcome the natural fear which children have of strangers. Perhaps, before starting to school, the child has been told that it must be good for if it is not the teacher will whip it before the whole school. The way to dispel fear is not by telling the child that you won't hurt it, but by engaging it's other faculties and making it forget its fears. Talk to the other children and by getting them all interested in books or pictures fear soon disappears.

Fear is naturally strong in children. This is necessary to make them careful, for they are in greater danger than adults. Education must step in to bring them out of this fear. If they are not educated out of it, it will be a great hinderance to them. A method of producing the imbecility, which arises from abnormal cautiousness, is to give it sympathy. Some little mishap has occurred to the child, it cries, the mother makes a great ado over it, and makes the child really believe that something terrible has happened. This performance is repeated a dozen times a day.

You will have children running to you at each recess with complaint against some play-mate. Soon you will have to protect a half a dozen big boobies against the little fellows. If they are permitted to grow up in that way they will become weak and pusillanimous. The better way is to send them away to play by themselves, or keep them in the house. Let them understand that you will have no such complaining. It were better to teach them to fight for their rights rather than to encourage imbecility and cowardice.

The author once lived near a family in which there were six small children. He never heard one of them cry. One evening while playing with a little girl of three years he hurt her finger. She hid her face in the grass for a minute and when she raised her head she was smiling through her tears. She had choked down the cry. In talking with the mother he learned that she taught her children not to cry. What a lesson in that great attainment, self-control!

Secretiveness.—*Location.*—The brain with which this faculty is connected is situated about one inch above the top of the ears. When developed the head is wide in the middle of the side head, as in Fig. 23. When small the head is narrow in the middle line of the side head, as in Fig. 24.

Function.—Secretiveness makes it possible to conceal the present state of the mind. Thoughts and feelings manifest themselves in actions and words. And were there not a power of the mind which could restrain the expression, these thoughts and feelings would be apparent to every one who was near us at the time that they existed in the mind. It were

indeed unfortunate if men's minds were so transparent. Man has not direct control of his thoughts and feelings, and it were greatly to his own and other's injury could his mental state be observed by others. Whenever the intellect decides that certain mental state be concealed this faculty throws a veil over the mind. And while the person may at the time be strongly agitated by love or hatred, or any other emotion, the lips are sealed as to the fact and the face is permitted to tell no tales, but both tell quite a different story. A secretive person may by the power of this faculty assume the most confidential airs and be the personification of frankness, and thus be able to mislead most men. It is only those who themselves are sly and close readers of characters who will detect the veil which hides the other's inmost nature.

These are the voluntary actions of the faculty, but when strong it acts involuntarily. The person instinctively avoids publicity. He is reserved, discreet, cool-headed and cunning. He never seems to be excited and is frequently pronounced devoid of feeling, while the truth is he has far more feeling than many others, but he gives expression to his feeling only when he thinks proper.

When the faculty is deficient it makes a man frank, outspoken, transparent and indiscreet. He tells all he thinks and feels and is ever saying or doing something which brings himself or friends into difficulty. He is the prey of all cunning and designing people. Honest and frank himself he cannot see how people can be otherwise. When he himself tries to practice shrewdness he reminds one of the bird which to hide from his pursuers sticks his head into the sand and

imagines he is entirely hidden. Cautiousness will prompt him to avoid rogues, but he is never able to outwit them.

It will at once be seen that the faculty gives a useful attribute to man; guided by intellect and strong moral feelings it becomes a power for good. It is employed in every position in life, and all that is necessary to make it productive of good is to exercise it in connection with pure motives and upright principles. It is only when linked with depraved morals that it becomes a source of evil.

Training.—The training of this faculty consists in awakening the nobler faculties. So that the child will not, as it grows older, be given to deception, trickery and cunning in selfishness; but be governed by right motives and use discretion and shrewdness as aids to doing good. When it is weak the child should be cautioned in regard to secrecy and discretion. It must be shown that while it may mean well in it's out-spoken manner, it will be likely to be misjudged by those who hear; that a little more reserve will bring more respect from others.

The teacher will find difficulty in getting acquainted with his secretive pupils. This difficulty must be overcome if he would fulfil his mission. Nothing in successful teaching is more necessary than that the pupil should have full confidence in his teacher. Must have such faith in him that he will lay open his heart to him and let the teacher see his aspirations and his difficulties. When the teacher gets into the inmost chamber of the heart he can bring about a wonderful change. He can inspire hope and ambition, quicken all the good impulses and prune off what is

hurtful. The teacher may have an earnest desire to do the pupil good, but so long as he is barred out of his inmost life his efforts will be of little avail. The pupil is so far away that the teacher cannot reach him.

The way to inspire the confidence of your pupil is to be earnest and sincere in your efforts to benefit him. Lay all selfishness aside. Do all that you can for your pupil regardless of consequence to yourself. Sincerity and frankness are contagious, and if you exhibit these qualities toward your pupil he will feel them toward you. Let the teacher act on the principle that students need watching, and by his manner indicate that he is shrewd enough to catch the worst of them, and makes bad conduct a game of "hide-and-go-seek," and nothing is more interesting to children. It is such fun to out-wit the teacher that punishment is unheeded, but only gives zest to the sport.

Sincerity and trust are the teacher's strongest means of control. Though he may be imposed upon once or twice, yet if he persevere and convince them that his interest and trust in them are genuine he will gain a lasting victory.

No eyes are so penetrating as those of children. If you practice double-dealing toward them, they will find you out. The sly ones will read you through and through. If you make a mistake in conduct before the school, the right thing to do is to confess it. A genuine confession of error will raise you in the esteem of every pupil.

Constructiveness.—*Location.*—The brain with which this propensity is connected is situated immedi-

ately under the temples. Its development gives width, as in Fig. 27.

When small the head at the temples is narrow, as in Figs. 9 and 22.

Function.—Mechanical appliances are in accordance with certain properties and relations of matter which are inherent in it. The intellect is able to discover these relations. So perception and reason are sufficient to give the idea of the use of the hands and tools in producing a desired effect. The faculty of Con-

FIG. 27.—Constructiveness. (Large.)

structiveness is not an intellectual faculty which gives ideas of mechanics, but it is a feeling which produces fondness for mechanical labor, a love for constructing. The person may be indolent yet he loves work best which requires the use of tools. Persons with superior intellects have talent for invention, but without this faculty their talents will not be turned in this direction, for they take no interest in construction. And should they engage in mechanical pursuits they may succeed well, but they will never love their work. A

person with large Constructiveness and deficient intellect will delight in his work, but will have little ability.

Cultivation.—This faculty is active in nearly all children. Nothing gives them greater pleasure than to be making something. Since the activity of this faculty enters so universally into all manner of work it should be diligently cultivated.

Girls should be early taught to do all kinds of house-work. Though they may never have to do other than the more elegant parts of it, it is nevertheless well for them to know how all of it is done that they may the better direct those who do the other. In our civilization men are expected to know how to do their business and to make the money to support the family. And woman ought to be complete mistress of the house and understand how to make it what it should be. A mother does her daughter a great injustice by permitting her to grow up without a thorough knowledge of the construction of those things that make even the humblest home the paradise of earth. A young lady has reason to be proud if she can with little make the parlor attractive, can can also go into the kitchen and prepare a good meal.

Boys should be early supplied with tools and instructed in their uses. There are many opportunities to cultivate this faculty in the school—by writing and drawing; by making diagrams and outlines of their lessons; by placing work on the board; by keeping exercise-books in neat and presentable shape.

CHAPTER VI.

THE ÆSTHETICAL FACULTIES.

Ideality.—*Location.*—This faculty is connected with the brain, which is situated just above the temples. See Diagram Fig. 20. When developed it gives width to the head in that region, as in Fig. 28. When undeveloped the head is narrow at that part.

Function.—The function of this faculty is to give a longing for the perfect, or as it is more generally understood, a desire for the beautiful. When the eye meets with anything which is perfect in all its parts a feeling of pleasure is awakened. This feeling is caused by the activity of Ideality. The action of Ideality has a modifying influence upon all the feelings. It throws about them a radiance of beauty, and lifts them above the grosser manifestations. It also modifies our perception of material objects and causes us to see in all things what otherwise we should not see. The man without Ideality looks upon a landscape and regards it simply as a thing of use. A flower is to him nothing, but a thing of utility in bringing about the development of the fruit. A statue of Venus is to him nothing but a stone girl. But to him who has Ideality all these things possess an attribute which awakens in him the keenest sense of pleasure. The perfect combination of forms and tint in the flowers, awaken in the mind of the poet the

feeling of the beautiful. And he clothes even material objects or, rather, sees in them a perfection which the man without Ideality cannot see. Fields and woods, the sea and the sky are full of beauty, and the glow of feeling which arises from this faculty clothes all

FIG. 28.—Ideality. (Large.) Alphonse Neuville.

nature in a mantle of ideal beauty. The man destitute of Ideality sees nature in her nakedness. She excites no feeling in him except the satisfaction that comes from observing things in her that minister to his appetite. It is the man with Ideality of whom the poet says :

"To him who in the love of nature holds
Communion with her visible form she speaks
A various language, for his gayer hours
She has a voice of gladness, and a smile
And eloquence of beauty, and she glides
Into his darker musings with a mild
And healing sympathy, that steals away
Their sharpness ere he is aware."

Ideality exerts an influence upon all the appetites and desires. It clothes them with an ideal perfection; imparts to them purity, elegance and refinement. If appetite craves food, Ideality insists upon its gratification in a refined and elegant manner. It is disgusted with the mere animal gratification. It so impresses itself upon the sexual passion as to raise it above the mere animal instincts and makes of it the beautiful spiritualized sentiment of love. The difference between sensual and refined or spiritualized persons is not that there is an absence of the animal instincts in the latter, but in this, that the passions of the latter are refined and elevated above the low by the influence of Ideality.

Ideality is an essential element in poetry, but it alone does not make the poet. Poetry is produced by intense and excited passion and the activity of the sense of the beautiful. This requires a warm temperament and strong emotions. Deficency in Ideality produces a common-place, prosaic person. Such a one would say to his beloved: "The moon shines bright on this bank. Let us sit down here and listen to the fine music and we will feel better. In the evening when it is still I always feel the best." The poet under the influence of Ideality would not only experi-

ence a more ideal sentiment, but he would express himself in language of exquisite beauty:

> "How sweet the moonlight sleeps upon this bank!
> Here will we sit and let the sounds of music
> Creep into our ears; soft stillness and the night
> Become the touches of sweet harmony."

Ideality leads to cleanliness in personal habits, elegance and refinement in manners, purity and beauty in feeling. It prompts us to seek the perfect in nature, in art and in ourselves. It looks forward to a time when all will be perfect and beautiful. It prompts us to put aside all that is offensive to good taste, and is one of the most powerful forces that tends to raise man upon a higher plane of life. One with strong Ideality may be selfish, dishonest and cruel, but he will be so in a refined manner. It is a great mistake that good taste, culture and refinement are all that is necessary to make one a true man or woman. Motives that seek to secure the well-being of our fellows are of the first importance. Selfishness though it be refined is selfishness nevertheless.

When Ideality is deficient the person is unable to appreciate the beautiful. He is coarse, vulgar and common-place. To him art and poetry are foolishness. He prefers a common fruit tree to the most ornamental of trees. A potato lot affords him more pleasure than the most beautiful flower garden. He is coarse and vulgar in his thoughts and manners. His passions are manifested in their nakedness, no veil of beauty and refinement is thrown about them. There is a strong tendency to impurity. He never appreciates a pure and poetic sentiment, but enjoys an obscene story. Frequently we find people of earnest piety who never-

theless enjoy the low, and they are most ready to condemn everything that savors of the elegant and poetic in religion as being heretical, because it does not accord with their uncouth ideas. Their own coarsely manifested religious feelings they call "spirituality"; while the serenest devotion and trust of the refined is pronounced by them "coldness."

Cultivation.—The influence of this faculty is in every way so beneficial that its culture is of great importance. If the children are well dressed, and come into a school-room that is neat, provided with good furniture, pictures and flowers, and meet a teacher who is neat in her dress, refined in manners, a restraining influence is thrown about them that will be productive of good conduct.

The teacher should strive to awaken the love for the beautiful by pointing out the beauties in the flowers, in the sky and everywhere that it may be found. The world is full of beauty if we but have our minds susceptible to its charms. As soon as the pupils are capable of appreciating it the beautiful in literature should be pointed out to them. Call their attention to the beautiful sentiment and the elegant language in which the poet and orator clothe their thoughts.

They should early be introduced to the best works of fiction. Hawthorne, Dickens and Scott show the beautiful and the ugly in human character as they can be seen nowhere else. You might form reading circles of your pupils and in these you might show them in what the loveliness of the characters consisted. They soon learn which traits of character are beautiful and which are not. Unconsciously their lives will be influenced toward the good by their reading. These

authors are the teacher's best friends, if he will but draw on them. They will awaken for you in the hearts of your children noble aspirations which will make them true men and pure women. If you lead young people to love good books you introduce them into the best society. Their idle hours will be passed in talking with the greatest and best. They will never be alone, for pure and sweet thoughts will be their constant companions. If you get a child once in love with good books a successful career is assured. Your success will be measured more by what your pupils do after they leave the school-room, than by what they do while in your care. The very best thing you can do for your pupil is to send him into the world thoroughly in love with the beautiful and the good. And in no way can you accomplish this so well as by getting him interested in good books.

Sublimity.—*Location.*—This faculty is manifested by the part of the brain which lies just above the ear at the place where the head begins to round off toward the top, between Cautiousness and Ideality. See Diagram, Fig. 20.

Function.—The activity of this faculty produces a feeling similar to that of Ideality, except that it is more powerful and of shorter duration. The perception of the beautiful produces a feeling of elevated and serene pleasure. The perception of the great produces the strong, stirring feeling of grandeur or sublimity. The perception of greatness, vastness, immensity, excites the feeling of sublimity. Boundless space, towering mountains, the ocean, especially when manifesting its power in the tempest, the roar of battle, the peal of thunder, courage in time of great danger, great self-

sacrifice for a principle, are objects which excite this faculty.

Sublimity gives the love of greatness and the aspiration to become something more than the ordinary. It gives admiration for all objects in nature that show greatness in some form, whether it be in power, size or age. It causes men to aspire to do great things. It is one of the essentials of eloquence. The true orator must have the power to make ordinary virtues appear great. This he cannot do unless he is moved by this feeling.

The orator who is pleading the cause of the suffering will make but a weak impression if he leaves the impression that this pain is one of the ordinary things of life. But if he is capable of feeling that this suffering is a very great matter, and then represents to his hearers that it is a thing of the greatest moment, he will move his hearers. A man deficient in sublimity would have replied to William Penn: "We will always live in peace with your people." The Indian chief replied: "While the rivers run and the sun shines, will we live in peace with the children of William Penn."

A man devoid of Sublimity would have said to Bunker Hill monument: "May you be so high that the sun will shine upon your top the first thing in the morning, and in the evening may his rays fall last upon your summit." Daniel Webster said: "Let it rise till it meet the sun in his coming; let the earliest light of the morning gild it, and parting day linger and play on its summit."

In these examples the ideas are accompanied by a feeling of grandeur, and are expressed in figurative

language which associates them with great phenomena in nature.

Ideality refines and beautifies the emotions; Sublimity envelopes them in an atmosphere of grandeur. Ideality purifies love; Sublimity makes us feel that the sentiment is worthy of all sacrifice in its behalf.

Cultivation.—Sublimity may be cultivated by creating an interest in the sublime in nature, in art, in literature and in conduct. History and literature are full of examples of sublime heroism and self-sacrifice.

FIG. 29.—Mirthfulness. (Large.)

The teacher should try to create an interest in these by pointing them out and showing wherein their greatness lies.

Mirthfulness.—*Location.*—This faculty is connected with the brain that lies in front of Ideality, at the upper corner of the forehead. When developed it gives width in that region, as in Fig. 29. When undeveloped the head is narrow at the upper corner of the forehead, as in Fig. 24.

Function.—The intellect discovers truth, congruity and propriety. It also takes cognizance of error, incongruity and impropriety. Ideality gives the desire for the congruous, proper, harmonious. So beside the gratification resulting from knowledge, there is also a passion which adds intensity to the gratification of the Intellect in the perception of the perfect. Were it left to Intellect alone, many errors, incongruities and improprieties, would pass by unobserved, and bad reasoning and endless error would result from a lack of watchfulness.

Mirthfulness is the faculty that is gratified by the perception of incongruity. Reason endeavors to discover congruity and true relations. Mirthfulness is a kind of jester of the mind, that seeks to discover incongruity and false relations. Wit and humor are both products of this faculty. All clear and accurate thinkers are great wits. They may not distinguish themselves as such, yet their accurate reasonings and statements of truth, free from error, is the result of their keen perception of the absurd as well as of the true. Those thinkers who are destitute of wit fall into many absurd errors, not because they lack the power to compare and to draw conclusions correctly, but because they have no sense of the ludicrous to keep them always on the alert for false relations. A man whose chief weapon is wit and ridicule is often said to be no reasoner, while the truth is he is the greatest reasoner. He is quickest in the detection of error. Things that we regard sacred, we shield most assiduously from the attacks of wit. While we examine all other things with a view to seeing the ludicrous side as well as the proper side, yet in sacred things we suppress the first

impulse to find the ridiculous. So in religious matters some of the brightest intellects harbor absurdities which in any other field of thought they would detect in a moment. How absurd are the tenets of heathendom, and yet how many intelligent and deep reasoning men are there in the heathen world who are willing to die in support of these absurdities!

In reasoning it is a powerful element in preventing the formation of erroneous opinion, but in the realm of conduct its power is felt even to a greater degree. Actions that are improper and out of place make us laugh. This is to some extent the case when these actions are accidental, but more so when they are performed with a purpose to do what is proper. It is said when the Emperor of Japan entertained Gen. Grant he wished to compliment him by saying that he had the appearance of a man who was born to command, but not being well versed in the English language said, "You appear like a man who was made to order." This blunder excites laughter. Wit and humor are blunders that are made purposely. Charles Lamb on his dying bed is said to have said to his physician, who was applying a mustard-plaster to his emaciated body, "Doctor, is not that a good deal of mustard for so little meat?" In both the cases mentioned, in a certain sense there is congruity. "To order" is to command, and the human body is "meat;" but the ideas conveyed by the words are not related to each other in usage as they are here related, and the impropriety is caught up by the sense of the incongruous, and the impulse to laugh is irresistable.

To make a statement seriously in which the ideas

are incongruous is to make a blunder. To make a statement purposely in which the ideas are incongruous, with the intention of amusing the hearer, is wit.

Wit and humor are the playful action of the intellectual faculties, and every joke is an experiment, the maker of it wishes to produce a certain effect, but cannot tell whether it will succeed or not.

It is the *discovery* of incongruity in the midst of congruity that excites the feeling of Mirthfulness. So a witticism is not witty to us when we know beforehand just what the person is going to say. The difference between wit and humor is, that Wit is sudden and intense as a flash; Humor is mild and long continued. Wit is in a single word or sentence. Humor is a vein of the incongruous running through the entire discourse.

It is proper that man should walk on his feet, but when one has on his best clothes and seems to be trying to navigate the street on his back it is improper and excites laughter. In church it is the proper thing to keep awake and listen, and when one sleeps he makes a blunder. He can sleep in a railroad car and no one will laugh at him. The man who has the quickest perception and the keenest sense of the ludicrous is the first to notice whatever is out of place and so will avoid all such actions. Many times the desire to avoid being made an object of laughter and ridicule has a more powerful effect in keeping a man in the line of proper conduct than all other motives combined.

People who are deficient in Mirthfulness see only the serious side of life. Those who have an abundance of it see principally the ludicrous side of it. "Artemus

Ward" and "Mark Twain" seem to look upon life as a farce, and laugh from the cradle to the grave. Even when they describe the serious they do so by mixing in a great deal that is ludicrous by way of contrast. Yet we must not think that they have an incorrect idea of life; for they must first have an ideal, a clear conception of truth and of propriety in conduct or they could not have such a clear conception of the ludicrous.

The teacher can make good use of this faculty in the government of his school. Nothing is dreaded more than to be made an object of ridicule. To convince a person that a certain course of conduct is ridiculous, is sufficient to make him avoid it. But wit is a two-edged sword, and unless skillfully handled will do more harm than good. To hold a pupil up to ridicule is a severe measure, and should not be employed unless the teacher is sure that it is the right thing to do. But if the teacher can show that certain things are ridiculous, without pointing out the guilty one, he can accomplish his object and do no harm. If the teacher can command wit and set the whole school to laughing at a bad practice, the perpetrator needs no other punishment.

Cultivation.—The faculty may be cultivated by reading humorous books, collecting humorous anecdotes, and by being on the lookout for everything that is witty, humorous or ludicrous.

CHAPTER VII.

THE SOCIALS.—DOMESTIC AFFECTIONS.

Amativeness.—*Location.*—The cerebellum is the seat of this passion. When the cerebellum is developed, it gives prominence to the head just above the nap of the neck. When deficient, the distance from the ears backward is small. Fig. 30 shows the organ well developed. Fig. 31 is that of a woman in whom the domestic affections are generally deficient.

Function.—Amativeness is the sexual passion, and its function is to secure the perpetuation of the race. It is the impulse that brings together individuals of opposite sex. It is the prime element in love, but it alone does not constitute that sentiment. It only gives what is known as passion. Perfect love results from this passion and the desire for companionship, purified by Ideality; and a complete satisfaction of the other faculties in the attributes of the person beloved.

At the age of puberty this faculty becomes active. There is then a complete change in both body and mind. The womanly form and charms are developed. The boisterousness and awkwardness of girlhood are superseded by the grace, beauty, modesty of womanhood. The eyes sparkle with animation, the voice becomes musical, the sensibilities are quickened; and, if the health be good, joy and beauty so pervade everything that life is a delightful romance or a

charming poem. But in case of ill-health, especially in diseases peculiar to women, there is a painful and unbalanced condition of the emotions, the blues and hysterics set in, and life is almost unbearable.

In the boy the manly form is developed, the voice changes, the eagerly awaited mustaches begin to show signs of life, boyish sports and thoughts become tame; there seems to him to be an indescribable charm before unknown about the person of the

FIG. 30.—Amativeness. (Large.)

FIG. 31.—Amativeness. (Small.)

opposite sex; the impulses that move men now take hold on him; ambition, love of power and desire to achieve great things now become the ruling elements of his life.

Cultivation.—It is not in the common school teacher's province to secure to a great extent the guidance of this faculty. Yet his influence in the community being great he may be able to disseminate correct ideas on this all-important subject. This is the

faculty that is at the basis of domestic life and happiness, and domestic happiness is at the basis of all other happiness. The evils of which the impaired condition, or the perversion of this faculty are the cause, can be traced to three sources: disease of the reproductive system, erroneous teachings as to the nature of love, and the abuse of this faculty.

Ill-health of the kind just mentioned produces an abnormal activity and condition of all the emotions. Irritability of temper, peevishness, jealousy, dispondency, instability of purpose, are its direct results. Where these exist in either husband or wife domestic felicity is impossible. Among the higher classes of American women not one in ten is to be found that is healthy in this respect. The unmistakable cause of this ill-health is their manner of dress and living. The lady teacher should become a leader in dress and health reform. She cannot do a greater, nor better work, than to introduce into the families that have girls books that teach what they should know about their own person.

When love exists as a passion it is the strongest feeling of our nature, and for the time being it makes all other interests subordinate to itself.

It warps the judgment and makes the person incapable of knowing the truth. In low fiction the idea is inculcated that this fever heat is to continue through life. All passions are short lived, so this one soon takes its proper place among the feelings of ordinary life. People have the idea that this passionate love is all that is necessary to make the marriage state all that romance pictures it. They think where there exists incompatibility of temper and taste, the difference in

intellectual culture, all are absorbed in love. Never was there a greater mistake. Love arising from this passion may exist in its intensest form between two persons, who have no tastes, desires or attainments in common, except this passion; and while the passion lasts these differences are but slightly felt. But when it subsides each sees the other in his glaring defects, after which a happy life is impossible. People must be taught that while marriages should never be contracted where there is no love, neither should it be where the one is not the other's complement in tastes, ambitions, morals, temper, and all other things that enter into ordinary life.

It is undoubtedly true where love is once begun it should be continued, for having once been under the influence of this great passion and been disappointed, it may never again exist in so normal a condition. So it is of the highest importance that parents should by proper guidance and instruction keep their children from forming attachments which will prove detrimental.

Teachers always have trouble when this faculty begins to exercise an influence in the children's minds. There will be a neglect of studies, to sit and gaze across the room at the charming creature; the quarrels among the girls about the boys; the insuppressible post-office, where they exchange notes. Parties are the rage. There is such a breaking up of former habits and modes of thought, such a complete breaking up of established conditions of the mental nature, that a change for better or worse must take place. Unless the right means are employed the most promising boy or girl may be turned into wrong courses, and their

lives be ruined. Happy is the boy or girl who has a kind mother that has the experience to lead him or her safely through this critical period.

During this season a skillful teacher, who has the confidence of his students, can lay hold of the newly awakened ambition and lead them to higher planes of life. He can impress upon them the greatness and desirableness of becoming good men and women, worthy of esteem and love. Now is the best time to

FIG. 32.—Parental Love. (Large.)

establish in their lives the principles of purity and nobility that are necessary to a complete and happy life.

Love for Children.—*Location.*—This faculty is connected with the brain which lies just above the occipital process. When developed it gives length of the head backward from the ear, as in Fig. 32. It is deficient in Fig. 31. There is a larger development of the head in this region in females than in males, and it is well known that the love of young is stronger in the former than in the latter.

Function.—It is the function of this faculty to give an instinctive attachment of parents for their children, especially while they are young and helpless. The mother has no other reason to love her infant except that it is an infant, nor can she will not to love it; for in all well regulated constitutions this is an uncontrollable instinct, placed there by the Creator to compel the care of the young. The impulse is strongest toward one's own children, but it reaches out toward all children and even pets.

Little girls show it when they bestow their affections upon dolls or kittens.

Cultivation.—No teacher, whether of small children or older ones, can ever make a real success of his work unless his heart be full of love for those in his charge. Children may be attracted by a beautiful face, but they are attracted far more by a warm heart. Children avoid those who have no love for them; nor can they be deceived if you do not love them, they know it. They are irresistibly attracted to those who love them. The teacher has to work upon human souls that have a fixed constitution and cannot be fashioned into any form, as can wood or stone. If he would succeed in his work he must have a life-giving force within his own heart that will act as sunshine upon a plant, awakening its powers, and causing it to expand into a perfect life. The sunshine of the soul is Love. When love shines upon the soul of another, new life is awakened. A teacher without love in his heart, as compared with one whose heart is aglow, has about the relative strength of the moon as compared with the sun. His faint light has little power to awaken life in the growing heart of the child.

If you cannot love your pupils, you would better quit your work. Men and women may make such progress under the instruction of one whom they dislike personally, but children cannot. They must love their teacher, and this is only possible when he loves them. For children, an inferior instructor whom they love, is better than a superior one whom they dislike.

If you would cultivate the faculty in yourself, seek to find all that is admirable and lovable in children. Put yourself in sympathy with them by recalling how you felt and thought when you were a child; by studying their desires and ambitions; by making yourself one of them, encouraging them in what is innocent and interesting to them. Treat them kindly, respectfully and tenderly. Above all do them kindnesses from motives of sympathy. If we do any one a wrong we hate him worse than if he had done us a wrong. So if we do good to another we will love him better than if we had received it from him.

Friendship.—*Location.*—The part of the brain with which this faculty is connected, is located on the back part of, and on the side of the head, half way from the base of the cranium upward. When developed it gives width and length to that part, as in Fig. 33.

Function.—"This is the gregarious instinct, and the tendency to attachment which is expressed by the term. It aids in the formation of society, and is the source whence arises the particular friendships found there. When well-developed it constitutes what is called 'an affectionate disposition,' and causes children to nestle in their mother's lap, or sit down and lay their heads together.

"It is a mental attraction of cohesion, which causes human beings to cling together and form themselves into compact bodies, acting only upon such individuals as are brought into sufficiently close contact by similarity of constitution, and circumstances as to fall within its sphere. Its first and closest bond is the family union, the love of brothers and sisters and all who are in close household companionship, gradually extending to school-fellows, neighbors and more distant

FIG. 33.—Friendship. (Large.)

FIG. 34.—Friendship. (Small.)

acquaintances. It is a disposition to be near its object, mentally as well as corporeally, making the infant restless when removed from its nurse, and the school girl hurt if her daily correspondent does not tell her every thought and purpose. The habits of the mind are infectious as those of the body, and the choice of our associates becomes highly influential upon our own dispositions. 'Tell me a man's companions, and I will tell you what he is.'" (Bray.)

Friendship differs from Parental Love in this, that it seeks for companionship and not for a helpless creature that requires care. It is the tie which unites persons of compatible natures without regard to sex. The mother's love for her child is from Parental Love, that of the child for its mother is from Friendship, but it is the maternal instinct which causes the child to cling to its pets.

Friendship gives a warm-hearted, companionable nature. It is beautifully manifested by the dog that loves his master so tenderly and faithfully, and seeks always to be with him to receive his kind words and caresses. When deficient it gives a cold and unsociable disposition. The person likes to live alone and nothing is more irksome to him than society. He attaches himself to no companions, and though he may be kind-hearted, just and generous to the needy, the less he can have of people's society the better he is suited.

It is one of the strongest civilizing forces, as it causes individuals to share their interests with others, and this contact awakens many thoughts and feelings which lead them to a better mode of life. The union which is the result of this impulse combines the strength of all, and by this combined strength mankind can accomplish all that is desirable.

Cultivation.—Secretiveness is the faculty which enables us to hide from view our thoughts and feelings. By it we can shut out from the secret chambers of our hearts, those whom we do not love. Friendship clings to companions and we say we love them. When we love them, we open to them our inmost feelings.

If the teacher would be in the highest degree successful he must be able to get into the pupils' hearts, the source of life and conduct. And this can be accomplished only by Friendship. If the teacher is himself secretive, he may feel much affection for his pupils, but will not show it, and so he fails to awaken in them the feeling which is necessary to his highest success. He should not be afraid to show his own regard for them. Of course he is not to carry his heart in his hand among strangers. But when he becomes acquainted with his school, it becomes his family, where he ought to express in deeds, at least, all the love which he feels. If the teacher be of a pure, upright disposition, and loves truth, sincerity, honor, the beautiful and the good, his example and friendship will do more toward making good citizens of his pupils, than will all the dogmas that he could teach in a lifetime. Love for the right and the pure, in the lives of those who teach, and not doctrine, is the greatest source of righteousness.

Inhabitiveness.—*Location.*—The location of this sentiment is in the brain which lies between Parental Love and Self-esteem. It is large in Fig. 35 and small in Fig. 34.

Function.—An analysis of the domestic nature shows that there is an impulse to bring together the sexes, and thus secure the continuance of the species from one generation to another. There is next the impulse to provide for the welfare of the young in their helpless condition. The rearing and the education of the young can be best secured by living at some permanent place. We find in many animals, and in man, this instinct to live in one place, where all the interests

of the individual can be concentrated. This impulse is called Inhabitiveness.

A permanent dwelling-place serves man's highest interests. Here he can surround himself with all things that are necessary to his physical being and comfort. Here he can rear his family, and enjoy their love and presence; gather his wealth, educate himself and his

FIG. 35.—Inhabitiveness. (Large.)

children, enjoy all the pleasures of domestic and social and industrial life. We find in every well-organized mind this love of home.

Its function is not to love those things which are in the home, nor to love the home because of the interests concentrated there. It is an instinctive inclination to live in one place. A person with the faculty weak may love home because of the pleasures which are cen-

tered there, but he will be equally happy at any other place, if the same sources of pleasure are removed to it. The man with large Inhabitiveness would rather live in the place of his bringing-up, with only the necessaries of life, than live at another where he might have all the luxuries.

It is always strong in those people who live in mountainous countries, where removal from place to place is difficult. It is weak in the American character, because from the beginning our people have been migratory, and because the facilities for travel are so great. There are comparatively few homes in America. A large majority of people live in other people's houses, and nearly every one is willing to sell his house if he can do a more prosperous business elsewhere.

One of the incidental functions of this faculty is to concentrate the actions of other faculties, or rather continue their action at the work upon which they are engaged. Persons with this faculty strong are disposed to dwell upon one subject, and to keep at one kind of work; they possess more continuity of action and are indisposed to change from one thing to another. Those in whom it is deficient are prone to change; they follow one kind of work but a short time and can do a dozen things equally well.

Cultivation.—In school children should have a desk of their own, and should be induced to take an interest in keeping it in order. In the house they should have their own rooms, which they should keep in order and make just as attractive as possible.

Remarks on the Affections.—Love is the basis of all goodness and virtue. Without it man is not human and he becomes the enemy of his kind. Without

it there is no happiness, words are without meaning and deeds without kindness; friendship is hypocricy and kindness is selfishness.

When a child shows affection it is an indication that there dwell the seeds of a true manhood or womanhood. The infallible way of starting a child on the road of its own happiness and well-being is to feed its affectional nature with that which is true, pure and good. Satisfy its heart with what is worthy and the source of its conduct will be kept pure. When a child exercises its affections for pets, the care and kindness which it exercises toward them will enlarge its capacity to do good to others. Often we see children growing up and their affections receive no food. The father is absorbed in business, he exercises no love toward his children, and they grow up to fear rather than to love him. The mother has her cares and missionary societies to look after. The brothers and sisters exercise only their selfish natures toward each other. So they arrive at the age of puberty and their hearts are anchored to nothing. At this time certain passions become active and all the affections are intensified. They are in a very whirlpool of passions and are swept on in the irresistible current. Their hearts were never anchored to father and mother, sister and brother, and in this time of awakening there is nothing to hold them to a virtuous course. They rush headlong into the gratification of their restless, craving, maddening desires. The girl may elope with the coachman and the boys run wild in debauchery and vice. Then people wonder why children of so good a family should go to the bad!

On the other hand children who are reared in the

atmosphere of affection, loved by father and mother, sister and brother; taught to exercise care, affection and kindness toward all those whom they love; receive the food to sustain their affectional natures. They attain a pure, healthy growth, and their young lives are spent in the sunshine of love and the joy of hope.

When the time of awakening comes they are so securely anchored to the hearts of the dear ones at home, that no unworthy object can engage their affections and tear them away from their happy loves at home. Such girls will love only those who have the noble qualities of their own fathers and brothers. Such boys will have such exalted ideas of womanhood from having had the love of a real mother and worthy sisters, that they will not be lightly influenced to do that which will give them grief.

Not only should the affections of children be engaged to the members of the family, but their love of home should be strengthened. This can be done by making that the most pleasant place for them. Let them feel that at home they are as free as when they are away. What children seek away from home is freedom. Give them this at home, and they will not go away from it. Children should be kept cheerful and happy. No angry passions or depressing feelings should be allowed to remain long in their minds, for these distort their normal development. Let them be engaged in mental and physical pursuits which will keep them cheerful and happy, and their tempers and dispositions will become sweet.

By developing their affections they learn to love the right and the good. Parents or teachers whose minds

are in a normal condition, that is those whose feelings are properly regulated, need never to exercise harshness to control children. It is only those who are themselves defective in their better nature that need to resort to fear. To rule by love is the only right way. By that is meant, that the one who rules should be moved by love, and should awaken love in him who is ruled, and thus lead him to right ways and not force him with the iron hand of authority.

CHAPTER VIII.

THE GOVERNING GROUP.

Self-Esteem.—*Location.*—This faculty is connected with the brain which lies in the middle line of the crown of the head, beginning where the head begins to round off from the top, and extending downward about one inch. When large it gives distance from the ear in that direction, and causes the head to have an upward and backward inclination, as shown in Fig. 36 by the dotted line.

Function.—It is in the function of this faculty to give a feeling of one's own importance and power. It gives self-reliance and a disposition to act independently of others. It is the prime element in leadership, and seeks positions of power and command. It imparts dignity, self-respect—that degree of self-confidence and self-satisfaction that enables the other faculties to act to the best advantage, and is free from the restraints imposed by fears of incompetency.

It is the main element in pride, and when excessive it leads to a too high estimate of one's own capabilities and worth, making him conceited, haughty and imperious; but when combined with a good degree of the Conforming faculties it gives a disposition to live above the mean and ignoble, and seeks to attain the worthy and exalted.

"We often see individuals manifesting this propensity in a most ridiculous manner; putting themselves forward, confidently assuming superiority, and getting themselves into conspicuous situations, while it is obvious to all but themselves that they are miserably deficient in the qualities necessary to fill an important station. It is astonishing to see the success which sometimes attends the ambitious efforts of men of inferior talents, when acting under the influence of

FIG. 36.—Self-esteem. (Large, "dotted line.")

Imperiousness (Self-esteem). Others, with gigantic intellects, give way before them, astonished at their impudent pretensions and disgusted with their egotism and ignorance. If their favorite hobby is one which is complicated and difficult to be understood, such as theology, medicine or politics, they generally gain the ignorant over to their opinions by the loud, confident and imperious manner in which they assert them, and the supercilious haughtiness with which they bear themselves toward others." (Grimes.)

Deficiency in this faculty causes diffidence, bashfulness, inefficiency; because a lack of faith in the power of self, irresolution, indecision, over-submissiveness and dependence upon others. The faculty is usually a leading one in the male character, and it is this more than any thing else that gives the manly spirit. In woman though not deficient, it exerts a minor influence in the mind. For this reason they shrink from responsibility and few of them will take positions in which the load rests upon them entirely, and will take them only when they are forced upon them.

Cultivation.—This feeling if properly directed is one of the highest attributes of man, and its deficiency one of his greatest defects. When it is strong it should be properly directed and when weak should by all means be strengthened as much as possible. If a child is wanting in self-confidence you should avoid discouraging him in any way. Give him little tasks at first which you know he can accomplish. And the best encouragement which you can give him is to impress him with the idea that *you* fully believe that he can do what is required of him. When the pupil deficient in the faculty it is very strongly impressed is upon those who see him that he is incapable, and it is difficult for the teacher to make himself believe in the pupil. Yet the teacher must not show his feeling, but must by word, manner and deed show faith.

When you call on such a pupil to recite, do it with a downward inflection, as much as to say, "There is no doubt that you will get it just right." Even if it be a failure show no disappointment, and on the next day call on him for something which you know he can

give; and if it be a success, show perfect satisfaction in your manner, or say as much in words. By all means do not indicate by your manner that you think, "Oh, it's you! I expect nothing from *you*, but it is my duty to call on you."

The important thing to do to these diffident pupils is to establish self-confidence. All other things are subordinate to this. Though you store such a head full of knowledge, it is utterly useless; for it will not do him nor any one else any good. But let a modest boy arouse his lagging self-esteem to action, and his modesty will afterward be a strong point in his favor. Children deficient in Self-esteem believe with indifference that they cannot do what others can; and the greatest good that can be done to such, is to establish self-confidence in them. When they get started they work with greater zeal, being urged on by this newly awakened hope, that is exhibited in such bold relief on the background of their former despair.

Restraint.—When you find a pupil who is swelled up with ideas of his own importance you will be tempted to humiliate him, to bring him down from the lofty position in which his conceit has placed him. But this is a wrong course, except in extreme cases. Pride when humbled by pride becomes a smouldering fire, which will do harm. Pride can be best counteracted by reason and respectfulness. If you tell a boy that he is conceited and proceed to put him down by authority, he may submit; but he will hate you, and do just the opposite from what you want him to do, even if it is against his own welfare. You manifest only a quiet dignity, and in the most respectful manner bring evidence to his mind that he over-estimates himself;

he will consider the matter, will see his own folly, and will regard you as his friend.

If a pupil shows signs of contempt for you and what you require of him, very quietly and without any show of authority put him to the test. You can do this in any of his studies. Should he not solve all the problems in the lesson, and give as his excuse that they are such simple things he needs not to solve them, you can send him to the board, not showing that you think he can not solve them. By thus putting him to the test, you can demonstrate to him most effectively that he lacks something.

Few things are so destructive of a teacher's success as the weakness which results from too much or uncontrolled Self-esteem. So few can receive a little authority without showing to others how it swells their pride. They exhibit it by manner, word and deed. By their exhibition of authority on occasions when it is unnecessary they arouse opposition and revolt. The teacher should always do what he does from motives of justice, kindness and propriety, and use his authority only as an assistant of these motives. Self-esteem thus tempered by justice, kindness, truth and humility, will give a quiet dignity that wins willing respect and glad obedience. Keep self under and let the love of truth and the love of the pupil's welfare be uppermost in all your acts.

Self-esteem acts in conjunction with the other faculties, and the teacher should seek to get it to act with the better motives.

Self-esteem with the animal propensities will cause the person to pride himself upon the powers that they give. Combined with the higher faculties it will

cause him to pride himself upon his power to do the noble and good. If a pupil shows this faculty in a high degree, show him that true honor and dignity must be based upon right and noble deeds; that all others are unworthy. Thus make his pride a fastening point for right and honorable conduct. If it is necessary to reprove him for an unworthy act say to him, "You are an intelligent and promising boy, you have the ability to do much good and to make yourself a useful and respectable man, or you can throw yourself away in an unworthy and degraded life." His Self-esteem will say yes to everything of that kind. Then bring up the conduct in question, and appeal to him whether or not it be worthy of him, or whether it is not a thing to regret. In this way you turn pride from a bad to a good course. You will make him your friend and he will put himself under your guidance.

The Love of Approbation.—*Location.*—This propensity is connected with the brain on each side of Self-esteem. When developed it gives width and elevation to the upper back head, as in Fig. 37.

Function.—This propensity seeks to gain approval, admiration and reputation. It is one of the chief forces to adapt the individual to society. Self-esteem is necessary to give confidence in self, to give a desire for authority. Approbativeness is necessary to compel self to seek the approval and good will of those who can confer this power and authority. It causes men to seek fame and glory. If Self-esteem be large, it will seek it in positions of influence. With the higher sentiments it seeks renown through philanthropy. With the animal propensities and physical strength, it

seeks reputation through feats of strength and superiority in physical courage and moral depravity. With strong intellect, it seeks renown through scholarship and wisdom. With Acquisitiveness, it regards riches as being the greatest cause of glory. Whether the ambition to be known of men be for good or bad conduct, depends upon the strength and education of the other faculties. Like Self-esteem, it is one of the

FIG. 37.—Approbation. (Large.)

leaders of the other faculties, that is, it is one of the leading motives in conduct. When excessive and not controlled by sound judgment, it gives rise to vanity. Vanity is the inordinate desire for attention. When this faculty is large and Self-esteem small, vanity lacks dignity, and its possessor will stoop to unworthy acts in order to attract attention. If he tries to be witty, he makes himself the object of laughter instead

of what he says. These clownish acts are the more despicable because the fact that they proceed from vanity is very apparent. The tone and manner express clearly that the desire for applause is the motive.

Cultivation.—If one wishes to control others, this is one of the motives to which to appeal; for most men care more for what people say of them than they do for whether they are in the right or in the wrong. Say to many a reckless young man, "It is wrong," and he will laugh at you. Say to him, "It is green," he will consider it seriously.

To win the pupil's confidence and esteem is of the first importance to the teacher. When he has these, by means of approval and disapprobation, he can guide the pupil into whatever course he wishes. A good deed deserves recognition and approval as much as a man deserves his pay when his day's work is done. When the child makes an effort to do right the teacher must not neglect to recognize it. He need not do so in words of praise, for this begets vanity, but he can do so by a look, a smile, or best of all, by some expression of confidence. You must avoid giving praise as pay for a good deed, rather give your sympathy. Show that you are made happy. Say to the child, "You have been a good child, you have had your lesson and now you are happy. Are you not? Yes, and I am happy with you. It makes us all happy when every one does right." The child will get to doing right because it pleases you, and not because it wins praise. To do good to make others happy is a right motive, but recognition is necessary to encourage this motive. But to do good to be praised for it is an inferior mo-

tive and should not be made a leading one in conduct. If the child loves you (it is your own fault if it does not), what a power you have over it! Every time you use your power to the child's good you make it happy and increase its love for you.

It requires tact to rightly administer approval. It requires still more to apply reproof. If you administer it as reproof you make the child angry and thus destroy the possibility of improvement. If you disgrace the child publicly you destroy its self-respect and ambition and undermine the foundation of character. To make an example of a pupil for the purpose of deterring others is heathenish and is only necessary where people are in that state. It is enough for children to know that every wrong is recognized and dealt with. Let reproof and punishment be in private. When you reprove in private you should be free from anger, should be actuated by a feeling of goodwill toward the culprit. In tones of kindness and sympathy get him to acknowledge that he has done wrong. From the very nature of the mind in a normal condition the knowledge of wrong will cause sorrow. When you see that the child repents, show him that you sympathize with him. That you too are sorry. By all means avoid showing that you hate the child for wrong-doing and are punishing it to satisfy your own feeling of revenge. If you have brought about repentance that is enough. When the child feels that it deserves punishment and expects to get it, you can say that is all you want. If it is sorry you know it will not do wrong again. By kind words you can convince it that you freely forgive.

The sorrows of the child will be turned to joy and

its heart will go out to you, its best friend. So if you manage it properly, you can make occasions of reproof opportunities for increasing the child's love for you, and of making it more steadfast in the right. If kind measures fail to bring repentance, you must punish. But the object of that punishment must be to bring repentance. Otherwise it will prove a failure.

One of the worst cases in every school is the pupil who is over-anxious to make a display, to show off at every occasion, where every look and movement seem to say: "Look at me. See what I do. Now, is not that about the thing." He is ever saying or doing something to attract attention. He is usually nicknamed "Smarty."

The weapon to use against him is public sentiment. That is the most painful to him. You show that such conduct is despicable in the eyes of the school, and when he sees that his deeds are condemned by the school, he will soon cease to practice them. If there is a sentiment against the teacher among a large number in the school, he becomes the teacher's greatest annoyance. He will go just as far as he can, even if he is punished for it; he receives the greater applause from them, and this causes him to bear the punishment gladly.

The teacher should keep the great majority with him always. If he loses their support his power is gone. Public sentiment in school as everywhere else is a great force.

Let a teacher punish the worst boy in school, every one will say he richly deserves it. But if the teacher in his passion punishes too severely, the sentiment of the school will go against the teacher. Their sympa-

thies are extended to the culprit, whom before they all disliked. He is made a hero, and glories in his victory. The teacher's influence is gone and it is doubtful if it can ever be regained. Always do the right and keep the public sentiment of the school with you.

If you have pupils who are vain, show them that true worth and the right are the only reputable things; that fine clothes or rich friends are no marks of superiority; that honesty, kindness, good sense and real work, deserve praise.

Especially should the teacher avoid showing vanity. Never do any thing for the sake of showing what you can do. Never display your learning for the sake of having it seen. Go about your work modestly. Nothing will so soon bring the contempt of the school upon you as cringing and begging for notice and compliments.

Firmness.—*Location.*—The brain with which this faculty is connected, lies in front of Self-esteem. It is a little back of a line perpendicular to the ear. It is well-developed in Fig. 38, and is deficient in Fig. 15.

Function.—The Governing faculties are a division or class of the Socials. Their function is to give man the power, and to adapt him to control his fellows. Self-esteem seeks to establish control or government, Approbativeness to make it popular, Conscientiousness to make it just and equitable, and Firmness to make it permanent. Firmness is averse to change of purpose, and resists all influences to change a purpose which has been formed. The Will is the decision of the mind as to a dispute among the faculties. All persons have the power to arrive at such a decision, that is, all have the power to will, but all do not have the

same degree of steadfastness of will. Firmness is the faculty which gives strength and fixedness to the will. When it is weak, the person will change his purpose whenever any thing more desirable presents itself to the mind. When it is strong, the person will rather make a great sacrifice than change his purpose; would rather spend a thousand dollars in lawsuits than pay one dollar that he made up his mind not

FIG. 38.—Firmness. (Large.)

to pay. It gives stability, fixedness, perseverance, determination, to character. When deficient the charater is noted for instability, fickleness, weakness, imbecility. He may be a person of good intentions, but is not reliable, is too easily tempted and led astray. There is a reliability about one with Firmness that is admirable, even in a bad cause. He may be vicious and hard to change, but he is worth saving: for when he is once saved he is a definite quantity. A weak-

ling is easily changed to good courses, but he as easily relapses into the bad.

When this faculty has a leading influence in the mind and is not restrained by reason and the Conforming faculties, it degenerates into stubbornness or foolhardy firmness. It then causes the person to delight in opposing every thing which any one favors. You say to him, "It is a fine day," and he will say, "Who said it was not?" If you say that schools are a great benefit to the country, he may agree that in the abstract they are, but he will try to show that the schools that now exist are not. Sometimes little children are so actuated by this spirit of opposition, that about the only way to manage them is to require them to do the opposite from what you really want.

Cultivation.—When deficient this is the most difficult faculty to strengthen; for it requires steadfastness to cultivate any faculty which is deficient. In pupils who are lacking in this quality we must appeal to all the other motives and cause them to arouse lagging firmness.

If you have a pupil who is stubborn, do not seek to break his will, but rather seek to show him that you do not care to exercise authority.

Oppose him as little as possible and exercise toward him a kind and conciliatory spirit. When he is disposed to be contrary, be perfectly calm and if possible show him that you desire his good and not your own pleasure. The point which the teacher should seek to gain is to get his pupils to will the right thing. That being accomplished the more stubbornness they have the better it is for all. The teacher must have that degree of Firmness which will make him stead-

fast. There must be a quiet air of firmness about him that inspires confidence. There must be nothing to show that he is vacillating. And yet there must not be a display of firmness that will arouse opposition. The teacher who would control easily must impress his pupils that he has a vast amount of reserve force. That he has an abundance of fire and will behind what he says and does. To make a display of his authority, force and will-power, leaves the impression that they are all spent. But to go about his work calmly, quietly, saying no more than the occasion demands and increasing his forcible qualities as there is need for them, leaves the impression that the teacher is prepared and able for any emergency and this inspires respect and obedience.

What shall be done when the demand of the teacher meets with a flat refusal? The teacher should never give a pupil the opportunity to give a flat refusal. He should so make his requests that the pupils cannot refuse. But when it does occur of course the teacher must conquer or lose his authority. And he should conquer with just as little friction as possible. He should indicate that it is the easiest thing in the world to carry his point.

Conscientiousness.—*Location.*—This faculty is located on each side of Firmness and when the brain is well-developed it gives elevation to the sides of the upper back head, as in Fig. 39. When small and Firmness well-developed, the head slopes rapidly downward.

Function—In order that man may be fitted for his sphere of action it is necessary that he have in his mental constitution an impulse which will make it advan-

tageous to his peace of mind to do the right. Were he intended for a solitary life it were only necessary for him to follow his selfish impulses. These would secure that which is necessary to his well-being and happiness, and would constitute his standard of right. But all men being social beings, makes it necessary for each to so regulate his conduct that the acts are such as are fitting to secure the well-being and happiness of self and others to whom he is related. Simply a knowledge of

FIG. 39.—Conscientiousness. (Large.)

what is right is not enough to cause the right to be done. There must be an impulse which compels man to do the right in preference to the wrong. One may know that in Italy are the best facilities for studying art, but this knowledge does not impel men to go there. It is the almost irresistible impulse or desire in the mind of the art student, acting in conjunction with this knowledge, that causes him to go to that country. Intellect which secures to man a knowledge of things as they are, that gathers the truth about all things and

their relation to one another, makes man able to know what is fitting or right. Conscientiousness is the impulse which is gratified by doing the right. In the unperverted state of the mind, doing wrong gives great pain and doing right gives great pleasure.

"It is the office of this feeling to permit and sanction the action of each of the other faculties so far as is consistent with justice, and with the rights of others. It is the source of the moral sense, or the sense of duty; its workings are conspicuous in straightforward uprightness of conduct, the nice sense of justice, the love of the truth, delicacy of manners and sentiment, and that general sincerity and openness of character, which produces the conviction that its possessor is an honest man." (Bray.)

Men who have strong and well-trained intellects and deficient Conscientiousness have an accurate knowledge of the right and wrong, but are indifferent as to which they do. Such an one seems to have been Lord Bacon, said to be the father of modern science and an excellent moral philosopher, who nevertheless was unfaithful to his friends and disgraced the high position which he held by accepting bribes. When he was detected he seems to have experienced no remorse of conscience, but excused himself by saying that he was morally purer than his predecessors in office. The pain which followed his acts seem to have arisen from Approbativeness. He was sorry that he was detected and that he lost his reputation.

Others there are who, with a good degree of conscientiousness originally, by wrong-doing have weakened its influence until it was no longer felt. When, however, it was again awakened by a great wrong

they suffer the most terrible remorse. Such was Richard III.

> "My conscience hath a thousand several tongues,
> And every tongue brings in a several tale,
> And every tale condemns me for a villain.
> Perjury, perjury in the high'st degree,
> Murder, stern murder in the direst degree,
> All several sins, all used in each degree
> Throng to the bar, crying all, Guilty! Guilty!"

There are others who are of a tender conscience, yet through ignorance of the right commit many sins.

If this view of conscience be correct, it is apparent how essential it is to have a correct knowledge of ourselves and our relation to others; that we may know what to do in order to injure no one, but to do the best for others and for ourselves. Since to do the right ministers to the happiness of all concerned, how important it is to keep Conscientiousness ever active and influential in our lives, that we may be strongly drawn to do the right.

Cultivation.—Right conduct is the great end to be sought in the life of the individual or in the state. It is the source of well-being and happiness. Wrong conduct is the great evil, the destroyer of life and happiness.

Conscientiousness and intelligence are the sources of right conduct, so that the culture of this faculty should be the aim of those who would advance the happiness of mankind.

Conscientiousness is very sensitive in children. They experience greater pain from wrong-doing in little things than do grown persons in greater ones. So the greatest care should be exercised to keep it

always active, that this voice within may always approve the right and condemn the wrong.

The teacher must avoid appealing to conscience for every trifling matter. Some parents and teachers bewilder the conscience of their children by calling so many things wrong which the children have done that they become indifferent. Usually the wrong which children commit are of so little consequence that an appeal to conscience is unnecessary. When the child does wrong, knowing it to be wrong, it should not be passed by without notice. For this too will deaden conscience.

Never tell the child of a fault without at the same time telling it how it may be made right—how the wrong may be redressed. The correction of a fault is always accompanied by chagrin and shame, and if a way be suggested by which the injury which has been done may be repaired, these unhappy feelings are banished and the child is made stronger in character, for having done the wrong and having redressed it. A child should be made to see that it has done wrong, and the punishment which is inflicted should be corrective, that is, it should as far as possible make good the injury which has been done. Punishment which has not this tendency does not reach the conscience; it only excites fear and has the tendency to make the child a hypocrite, but not to make him more conscientious.

"But here we must observe that nothing tends so completely, utterly, to destroy the moral sense as undue severity; let the pain of having done wrong be felt as sufficient punishment, if no other were to follow. For children of more advanced ages all outward pun-

ishment may be positively injurious. When the power of conscience is strong, the feelings deep and the disposition retiring, often the less notice taken of a fault the better. In such a child the sense of demerit will be stronger and repentance more sincere, if he is treated with the same kindness and confidence as before, than if the fault be dragged into public view and himself is treated as a criminal; for, in that case, the wound given to the feelings may be too deep, and good resolves may be turned into a contrary direction." (Bray.)

The teacher should keep high ideals of true nobility before his pupils. He should call their attention to books which describe characters which were actuated by high motives. Children must *learn* to love the good that is in men, and the way to teach them is to bring virtue before them and show them her beauty and loveliness. Yet a teacher by continual harping on this subject, and by making a great ado about little things, may make the mistake of being squeamish. A little harmless sport on Sunday may appear to him a greater sin than dishonesty. He is always propping up virtue as if it were not able to stand alone. The more vigorous boys will begin to look upon righteousness as weakness. The ruggedness of sin is preferable; for to them it is more respectable than the senseless whims of many good people. The sickly sentimentality of well-meaning people has driven many a vigorous life into evil ways. Because a boy does some little questionable things, which, however, are of little consequence for evil or for good, should not make us forget his sterling qualities. Let us make the good that is in him the object of our care, strengthening and increasing that, rather than spending all our time in

trying to uproot the evil. When he grows older and these higher principles attain a vigorous growth he will leave off his little sins.

The best way for a teacher to inspire his students to a righteous life is by himself being an example of a straightforward, high-minded and truly honest man or woman. A teacher of loose morals, of a deceiving disposition, one who is actuated by low motives, will do more harm than he can do good. Although his professions may be good and his outward conduct come up to the average standard of morals, yet his real character will lower the character of his pupils. He will contaminate the purity of their minds and lower the moral tone of the whole school. His bad character though apparently concealed is a silent influence that undermines the foundation of virtue.

A teacher who is transparently honest, who loves the truth more than any thing else, who hates a lie above all things, who despises every mean motive, who esteems honor, heroism, goodness and all that is pure and true and noble, will infuse into his whole school his own high ideal of right living. The moral atmosphere of such a teacher's school will become purer every day, and truthfulness, honor, honesty, unselfishness and right ambition will soon show a strong and healthy growth in the minds of the pupils.

CHAPTER IX.

THE CONFORMING FACULTIES.

Veneration.—*Location.*—The part of the brain with which this faculty is connected is located in the middle of the top of the head. When developed it gives distance from the base of the brain upward, as in Fig. 16. It is deficient in Fig. 40, while the dotted line shows full development for such a head.

Function.—"The propensity to obey commands, to submit to authority, and to admit others to be superiors. It recognizes excellence or superior power with pleasure, whether it is found in nature or in society. The immensity of space, the vastness of the celestial system, the velocity of the planets, the destructive force of earthquakes, the power of genius, the greatness of moral heroes, and above all the omnipotence of God—these are objects calculated to excite this propensity. It induces respect for parents, teachers, magistrates and superior persons of all classes. It is probably the principal element in the sense of the sublime, the grand, the awful. When small, there is an unceremonious bluntness, a want of respectfulness in the manners, and a tendency to treat superior persons with undue familiarity. This kind of irreverence is still more manifest when Imperativeness (Self-esteem) and Combativeness are large, and Approbativeness,

Secretiveness and Equitableness (Conscientiousness) are small." (Grimes.)

Veneration is one of the principal religious emotions. It imparts submissiveness and resignation to the character. It is the opposite of self-esteem and its natural language is "not my will but thine be done." The activity of this emotion produces a marked effect upon the bodily activities. It checks the flow of blood to the surface and to the brain, and

FIG. 40.—Veneration. (Small.)

the result of this is that a calmness comes over the body, the brain becomes quiet and the other feelings extinguished. A restful peace and resignation pervades the entire being. Its most powerful activity occurs in prayer and other devotional exercises.

When the temperament is an impressible one, and this faculty with others of the Conforming group is greatly excited, the diminution of the blood in the brain is so great that a state of semi-unconsciousness

sets in, and the activity of this faculty then produces the highest religious ecstacy. It is the effect of the conforming emotions upon the mind and body which has much to do with the peculiar state known as the mesmeric trance. The spiritualistic "medium" instead of being controlled by disembodied spirits is, probably, controlled unconsciously by his conforming faculties. These influence the will in such a way as always to do what the "medium" believes the spirit can do. Credulity and over-powering reverence so act upon the nervous system as to produce the greatest hallucinations. Spiritism, ghost seeing and witch-craft are all produced by credulity, reverence, fear and ignorance.

The effects of Veneration in producing a due degree of submission, trust and resignation, are most beneficial. So also its perversion is the most destructive to the progress of truth and happiness among mankind. All religious intolerance and fanaticism come from its perversion.

Says George Combe, "It seems to maintain the unenlightened devotee in a state of bigoted subjection to his priests. An emotion of profound and sanctified respect springs up in the mind, and contemplating the doctrines which they have instilled into him in his youth; and every suggestion of the understanding, in opposition to this feeling, is expelled as profane. In short, Veneration, when vigorous and unenlightened, produces complete prostration of the mind before the object to which it is directed."

The history of the human race in many respects is a sad one, but it is difficult to say whether the tyranny of ambition or the tyranny of credulous submission

has made the saddest record. It is plainly to be seen that a knowledge of the truth is most essential to secure the well-being of the race. In ignorance our best as well as our worst feelings lead us into misery. Then all honor to him who brings to light one truth in any field of human knowledge.

Veneration is the source of true politeness. It disposes men to submit to others and to treat them with respect. Impoliteness which manifests itself in abruptness, bluntness and disagreeable familiarity, arises from deficiency of this faculty.

Cultivation.—The feeling manifests itself toward two objects: toward God and toward Man. The public school is not the place to teach dogmatic religion; nor is it the place to undermine the faith which the parents have seen fit to inculcate into their children. But the school is the place in which to train children to revere the true, the beautiful and the good. The teacher should teach the children to respect those feelings which are sacred to any one. There is no one who understands the awful mystery of human life. Where our knowledge can not guide us we must rest upon Faith and Hope and Love. He must be a blatant ignoramus indeed who would take away these in the present state of uncertainty as to human destiny. The man to whom nothing is sacred reminds one much of a swine in the midst of all the works of art and human affection.

Nothing is more deadening to true reverence than the familiarity with which some people handle sacred things. They talk about religious matters in the same tones in which they instruct the servants to do the work about the kitchen or the stable. One's

religious convictions ought to be so sacred that he is not willing to drag them before the public gaze on every conceivable occasion.

The teacher should keep it in mind to inculcate respect for every human being. All are capable of the highest attributes. Sincerity, affection, honesty, goodness or any other manifestation of the noble qualities of the human heart should make us feel to bow in respect before them. To scoff at those things which are of so much worth is wrong and injurious to the one who scoffs.

In this sentiment as in all others of the higher kind a good example is the best stimulus. If you would receive respect from your pupils, you must treat them as if their feelings and thoughts and they themselves were (as they are) as worthy of respect as those of any man. If you are polite and respectful to your pupils they will be so to you. If other than respectful conduct be shown you, do not resent it in an ungentlemanly or unlady like manner; but treat the offender with the greatest politeness and show him that you are the true gentleman or lady, even when most provoked to other conduct, and the reaction, which will set in will be the best prevention against further transgression.

Kindness or Benevolence.—*Location.*—This faculty is connected with the brain which is situated at the front part of the top of the head. When developed it gives distance from the ear forward and upward, as in Fig. 41. It is deficient in Fig. 38.

Function.—It is the function of Benevolence to give the disposition to increase the happiness of others. It is the love for doing good. It is not interested simply

in members of the family and in friends, but in every thing which can experience pleasure or suffer pain. The person in whom it is strong, delights in relieving suffering and in spreading happiness abroad. It makes one kind-hearted, sympathetic and self-sacrificing that others may be happy. The person in whom it is de-

FIG. 41.—Benevolence. (Large.)

ficient is selfish and indifferent to the suffering of others. He may love his family, that is, he may be attached to them, but he has little disposition to be kind and helpful to them, is harsh and even cruel. He lacks that delicacy of feeling which is a characteristic of a charitable, sympathetic and liberal-minded person,

but he is narrow-minded, uncharitable and bigoted. He is severe upon those who come short of their duty, and is interested in nothing which does not minister to his selfish interests. When it is strong it gives an interest in all men and seeks to better their condition. Schools, churches, laws and every thing which will promote the prosperity and happiness of others become objects of interest. It gives mildness and charitableness to character. Franklin, Father Mathews and Lincoln, whose lives were spent in promoting the welfare of mankind, are good examples of the preponderance of this faculty in the mind.

The feeling arising from Benevolence must not be mistaken for that of Friendship. Friendship, or Adhesiveness as it is sometimes called, gives attachment to others, the desire to have their society, the disposition to co-operate with others; Benevolence gives good will toward men, and is gratified when they are happy.

Adhesiveness relates only to individuals; Benevolence regards the whole human race. Benevolence diffuses a genial warmth and sunshine through the mind, and it extends this good-will to all persons, seeking to increase their pleasure.

Benevolence is one of the chief impulses in the progress of knowledge. It is opposed to seclusiveness and clannishness. It gives an interest in all things which minister to human happiness, and as all truth has that tendency it prompts investigation in all directions.

Cultivation.— As our happiness depends so largely upon our relations to others, it is of the greatest importance to us as well as others that this faculty have a large influence in directing our conduct.

There is no pleasure more satisfying and lasting than that which arises from doing good. There is no quality of the mind which will make others so well disposed toward us as this kindness of heart.

A teacher who is prompted to action by motives of kindness is the best inspiration to his pupils to exercise a spirit of sympathy and good-will to one another. If the teacher will show in all his actions that his object is to promote the best interests of his pupils, and that he does not consult his own convenience, he will awaken the respect and love of his pupils, and cause them to exercise toward him and toward each other the same spirit of good-will. And it will not be long before all will be actuated by the desire to be helpful and kind to each other.

If you wish to awaken this feeling in another, you should do him a kindness. But it is even a better way to get him to do you a kind act. You will thank him and by your appreciation and gratitude strengthen the kindly impulse.

It is a well known fact that if we do wrong toward another we dislike him even more than if he had wronged us. It is the same in kindness; we like a person better for having done him a good deed. If a pupil does not like you, ask some small favor of him, such as placing some work on the board for you or erasing the work on the board. By thus taking notice of him, placing confidence in him and showing your appreciation of his kindness, will make him well disposed to you.

If we would cultivate Benevolence we must give pupils an opportunity to exercise it. When children experience the joy that comes from being kind-hearted

they will soon learn that to give is more pleasant than to receive.

Hope.—*Location.*—This faculty is connected with the brain which lies in front of that which is devoted to Conscientiousness and at the side of that which is devoted to Veneration. See Fig. 20.

Function.—The lower animals seem not to have the power to comprehend the future. They are related to the past by a slight degree of memory, to the present by sensation, but being without reason they cannot infer the future from the past and present. Man's reason enables him to comprehend the future, but his idea of the future would depend entirely upon the experience of the past. If the past has been pleasant, reason would infer that the future would be so, but if the past has been full of sorrow the future would appear to have only that in store. As the difficulties and unpleasant things exceed the pleasures, it were a sad prospect for human life had we not an impulse in the mind which inclined us to expect better things. Hope is the emotion which fills the mind with the feeling that the future will bring us many pleasures. It is a conforming faculty since it causes us to submit cheerfully to present evils. The conviction that the future will be happy throws a halo of light and cheerfulness over the darkness of the present. The whisperings of hope drive away the gloomy thoughts which spring from present unhappiness. Hope looks upon the bright side of future prospects. It makes one cheerful and gay. Every desire of the heart is strengthened by Hope. Do we desire fame, power, wealth, domestic bliss or eternal life, hope says to us we can have them.

Hope is essential to enterprise; for the expectation of future gratification strengthens the desire which moves us in the present. When hope does not encourage desire we soon cease striving, but with hope to encourage us we contend cheerfully and unceasingly against all difficulties.

When Hope is deficient the person expects little in the future. It clogs his energies and makes him passive. When Cautiousness is large he is gloomy and despondent.

Children are strongly influenced by Hope. They are moved by impulse and less by reason. It is the experience of hopes unfulfilled that teaches them to put a more rational estimate upon the probabilities of future good. In grown persons when the faculty has too great an influence, it leads to unreasonable expectation, and so leads to financial and other failures. Older persons should exercise caution and not give way to unreasonable hope, but in youth little harm can come from its great activity. Youth is the growing period of life and should be full of the inspiration of hope.

It is the conviction of youth that all things are possible to him who will work for them. And it is well to encourage them in this belief. It is unnecessary to tell young people that they are weak and can not become the great persons that they think the can. They will find it out soon enough. So it is good to let them believe in their hallucinations. The courage which fails is just as heroic as that which succeeds, and it may not fail.

Cultivation.—He is the best teacher, other things being the same, who can inspire the most hope in his pupils. He who can infuse desire, expectation and

faith in future good into his pupil causes him to take the first step toward higher attainments. To accomplish this end the teacher must be enthusiastic, full of faith and hope. He who mopes and drags his feet, who has no faith in himself, or in his pupils, can not inspire hope.

You should keep before the pupils the end which you expect them to attain. When necessary show them the progress which they have made. Keep the spirit of enterprise alive by rejoicing over past victories and in those yet to come.

It is of so great importance that a child should be hopeful that when one is found that is despondent he is looked upon as of diseased mind. Despondency is unnatural in the young, and when it appears it must be counteracted in some way.

Without hope nothing worthy of note can be accomplished, but with hope great things are possible.

While pupils are young, hope must be stimulated, but when they become older they must be made to feel that future good comes only to those who earn it by most thorough preparation and faithful work. In the high school the effort of the teacher should be directed toward showing the pupils that they have just entered the gates of the fields of knowledge. Show them the vast field which lies before them. That if they can not go on through college and university they must explore them alone. The school that leaves the impression on the minds of the students that they have finished their education is a positive failure. Hope must be tempered with sound judgment.

Imitation.—*Location.*—This faculty is manifested by the part of the brain situated at the outer

part of the front part of the top head. When the brain is developed in this region it gives elevation and width, as in Fig. 42. When undeveloped the head is low at that point, and slopes rapidly downward when Benevolence is large. The dotted line shows the organ small.

Function.—The function of this faculty is to make man capable of sympathy. The actions resulting from it we call imitations.

FIG. 42.—Imitation. (Large.)

An actor expresses by words, intonation, gesture and facial expression the feeling of remorse. We recognize that the feeling is not genuine, but without some degree of the feeling he could not give expression to it. By means of this faculty the actor puts himself in sympathy with the feeling in the imaginary character, and so arouses his own conscience to a counterfeit feeling. To act well an actor must feel what he tries

to portray. Yet how can he feel revenge, remorse or any other passion unless there has been something in his own life to arouse these feelings? It is only through sympathy that it is possible.

Imitation is the most powerful of the conforming faculties, because its action is usually involuntary and unconscious. It is a strong and hidden force that causes us to do as do those with whom we come in contact. If we are with persons with certain peculiarities, through Imitation we are put in sympathy with that peculiarity, and involuntarily and unconsciously we feel and act like our companion. In this way one individual influences another, and through sympathy all seek a general level. The high lift up the low, the low pull down the high, the passionate warm the cold, the cold cool the passionate. After a few years of association with each other, people of such various peculiarities as are those who come to America, assume a peculiar national character which is the result of this association. Persons with the most marked pecularities exert the greatest influence. This is more especially true when the governing faculties are strong. Those in whom the governing faculties are weak and Imitation strong are most easily influenced. This explains why intelligent, refined and well-meaning persons are often led by one who is their inferior in every thing except in having a marked peculiarity, and being of a bold and independent spirit.

Imitation gives an insight into human nature. Through it they are in sympathy with the character which is present to them and are then able to describe his feelings and thoughts accurately. The heads of Socrates, Shakespere, Scott and Dickens shows the

faculty strong. It was through this faculty that they were able so accurataly to analyze the characters of all kinds of men and women.

Persons in whom the faculty is weak are noted for their individuality. They follow the kind of life which results from their own constitution and are influenced but slightly by others. They are unable to adapt themselves to persons and circumstances different from those to which their constitution adapts them. Those in whom the faculty is strong can pass through all grades of society. Their Imitation, puts them in sympathy with those about them and they readily become one of the company and adapt themselves as readily to the new surroundings as if they had always been in them.

Knowledge has been over-estimated as a conduct producing force. The influences which are brought to bear on men by their surroundings, and especially by the habits of their associates is more powerful than knowledge. Examples of correct living have more power over men than do abstract truths. An upright life is the *living* truth and works directly upon other lives. Abstract truth is a grain which is planted in the heart and is of slow growth. Truth planted in the heart of Socrates or Jesus grew and yielded the fruit of a noble life. But it was their lives more than their teaching that influenced their disciples. These in turn shaped the lives of others and thus the good influence lifted up millions of those who had but a faint conception of the great truths that underlay the right conduct in the more intelligent.

Too much cannot be said of the importance of the teachers good example. There is little danger that

the pupils will make him their model. None but the weak-minded follow a model. If the teacher poses as an example he only makes himself ridiculous. But he should not forget the silent but strong influence which his own character exerts upon his pupil. Then his greatest care should be, *to be* and not simply seem to be. If he be noble, high-minded and true, his pupil will become so, not because they make him their model, but because they unconsciously grow like him.

It is in Imitation that good conduct first takes root, afterward it reaches a vigorous growth in conscience, reverence and kindness. The direction which the childs character takes results from outside influences through Imitation.

The teacher should distinguish the pupils who are bad from imitation from those who are so from nature. To bring a stronger influence to bear in favor of the right is what is necessary with the first. All the forces which can be employed to change character must be brought to bear on the second.

Faith or Credensiveness.—*Location.*—The part of the brain which is situated between Imitation and Hope is devoted to this propensity. When large it gives the configuration of head as seen in Shakespere, Milton, Tasso and all writers of the marvelous. When small it gives a deficency in this region, as in Hume, Paine and Gibbon. Fig. 43 shows the faculty strong.

Function.—This propensity finds satisfaction in accepting the statement of others without inquiry into the evidence. Its office is to produce the disposition to believe that which is not definitely known. Children accept the statement of parents without

questioning their truth. "It is true," they say, "because father says so." No amount of argument can make them doubt what is given by authority. Their disposition to believe is so strong as to make their reason inoperative. This is true also of many adults and scholars. The devout Mohammedan has been taught that the Koran is absolute truth. His Credensiveness cherishes this as much as does the mother's love cherish her child; and to make him

FIG. 43.—Spirituality. (Large.)

doubt the Koran is quite as difficult as to destroy the mother's love. This is true because Faith is a passion that clings to its object just as love does.

The Intellect is a doubter. It rejects every thing except what is reported by the senses, and the inferences which Reason draws from material facts. Credensiveness is the believer and gladly accepts what is asserted by authority. Intellect and Faith are forces which tend in opposite directions, and when both are active

to the extent which they should be, better results follow than when either predominates.

Men having large Credensiveness and moderate Intellect are credulous and superstitious. They believe in improbabilities and absurdities. The more marvelous they are the keener is their relish. This is especially true when the authority is reported to be supernatural.

Men with strong intellects and small Credensiveness are natural doubters. They accept that only which can be demonstrated. They look with a smile upon those who are disposed to give credence to the probable. Although millions accept the belief, they are unable to see how any one of intelligence and learning can be so foolish. They attribute the belief either to cowardice or hypocrisy. These skeptics are analogous to the old bachelor who, having no Amativeness, denies the existence of love. Were men to be guided wholly by what they know, very little good would be accomplished. In all departments of life we act more from what we believe than what we know. To know all that has been revealed is the privilege of the few; to believe the right is the privilege of the many.

Doubt is one of the forces which has brought the world out of the darkness of superstition into the light of knowledge. But doubt unrestrained will lead us again into darkness. It is when doubt and faith go hand in hand that we are led into brighter fields of truth. Doubt removes the rubbish; faith holds to that which seems good.

Cultivation.—Credensiveness is one of the most influential faculties in creating a love for knowledge. Intellect gives the ability to know, but the propensities

have as much to do in giving the desire for knowledge as the intellect has. This faculty is excited by every thing which is marvelous to the possessor, and it prompts the intellect to investigate. It therefore creates an interest in the unknown. It desires to find out what other people have said about it.

The best way to interest children in reading is to introduce them to fables, fairy stories, adventures and romance. Therefore the popularity of the "Arabian Nights," "Robinson Crusoe," etc. These tales appeal to the love for the marvelous.

The teacher should induce the children to read these works and others like them. When they are once interested in these you can then introduce them to books of travel; from these you can lead them to study history, works of science, the higher forms of fiction and poetry. If you begin with what you call useful reading the children will not be interested and you can not induce them to read and your efforts will prove futile.

CHAPTER X.

THE INTELLECT.

The Intellect is that group of mental faculties which give the power to know. It relates the mind to all things, physical or mental, which have any effect on man's well-being. It enables the mind to know its own existence, the existence of other things, their properties, relations and actions. Through the Intellect external nature and internal sensations impress themselves upon the mind as they are, and these impressions we call knowledge. The Intellect is a mirror in which an image of those things with which man comes in contact is formed. This image we call Truth.

If the Intellect be perfect, it forms a correct image; that is, gives us perfect truth, a representation of things as they are; but if the Intellect be imperfect it will give us an imperfect image, represent things as they are not, and this we call error.

The Intellect is composed of many faculties, each faculty having the power to take cognizance of a particular thing, such as form, size, color, force, etc. The things which excite the Intellect to action can be divided into six classes:

First: Objects having an individual existence; having a separate existence from other objects. This adapts the mind to comprehend the diversibility of matters and gives the power of analysis. We come in con-

tact with an object; as for example, a house. Through the optic nerve it makes an impression upon the mind. The house is recognized as an individual object. A closer application of the intelligence will separate it into its different parts; such as doors, windows, etc.

Second: The properties of matter, size, form, color, excite another class of Intellectual faculties.

Third: Location, order, number or the relation which objects have to each other, are the objects which excite another class.

Fourth: The force which objects exert, excite another faculty. That which is done by the objects or is done to them, actions which they give or receive, is recognized by this intellectual faculty.

Fifth: The relation of cause to effect and effect to cause is recognized by another faculty. The mind is not satisfied with knowing that things exist, but it desires to know *why* they exist.

Sixth: The activity of any faculty of the mind, whether affective or intellectual, is recognized by the combined action of the intellectual faculties.

Thus we find that in the mind of man there are activities which receive impressions from things that are without, and also from the sensations which come from within.

Consciousness.—This power to know the existence and actions of the mental activities is called Consciousness. All beings which possess intelligence have consciousness and their degree of consciousness is in proportion to their intelligence. Could we suspend the action of the intellectual faculties while the feelings remained active the person would exercise love, hatred, fear and anger, but he would be uncon-

scious of it. He could experience neither pleasure nor pain.

Language an Index to Intellect.—Language is intelligence expressed. It is composed of signs which are associated with certain actions of the intellect, and a study of language should throw some light upon the structure of the Intellect.

The elements of all languages are the same. This is so because the structure of intellect is the same in all men. Language is a representation of the intellect of him who uses it. When this image of thought is brought before another who knows what signs are associated with certain mental states he receives the thoughts of him who first had them.

If the above analysis of the intellect be correct it ought to be confirmed by the structure of language.

Substantives or nouns are the equivalents in language of the conceptions of individualities in the mind. Every thing or every conception of a thing in the mind is given a name. Without the ability to comprehend objects as individuals, there would be no nouns, and without nouns it is impossible to transfer to another mind the idea of individuality.

Those things of which the mind takes cognizance through the senses are concrete nouns. Those which represent things that have no existence as objects but are conceived as individual by the mind are called abstract nouns. There is no such object as wisdom; yet the intellect conceives it as objective and recognizes it as having properties. Nouns, therefore, bear strong evidence to the fact that there exists in the mind a primitive faculty whose office it is to give notions of individuality.

Adjectives represent the real or conceived properties of objects. They are the equivalents in language to the powers which take cognizance of the properties of matter.

Qualifying Adjectives represent the activity of those faculties which perceive the inherent properties of objects. Definitive Adjectives represent those qualities which arise from the relation that objects have to each other, such as position, number and order.

Verbs express the recognition of the action and continued existence of objects. Active verbs express the perception of the force exerted or received by an object. Substantive verbs express the conception of continued existence of an object. "The bird *flies.*" Here "flies" express the force exerted and the action performed by the subject. "The bird *is* red." Here "is" represents the continued existence of the subject in a certain state.

By means of one faculty the mind perceives action, by another that action is perceived as individual, by others its properties are perceived. Adverbs express the qualities of actions. The properties of adjectives and of adverbs are perceived as individuals with their various properties; and these are also expressed by adverbs.

Prepositions express the relations which objects or conceptions have to each other. These arise from the powers of the intellect which take cognizance of relations. The structure of language seems to testify to the correctness of this analysis of the Intellect.

Classification of the Intellectual Faculties.—The intellectual faculties may be divided into six classes,

yet for all practical purposes two classes will do quite as well.

The Perceptives.—The perceptives occupy the lower part of the frontal lobe of the brain. When this is well-developed it gives length from the ear forward,

FIG. 44.—Perceptive Organs. (Large.)

making the forehead prominent just above the eyes. Their function is to take cognizance of objects, their properties and relations. They put man in relation with the external world and constitute the part of the intellect that gathers facts

They give the ability to observe.

The Reflectives.—The reflectives are connected with the upper part of the frontal lobe. When this part of the brain is well-developed it gives distance from the ear to the upper part of the forehead, giving prominence to it.

FIG. 45.—Reflective Organs. (Large.)

When the Perceptives are large and the Reflectives small the forehead retreats rapidly.

When the Reflectives are large and the Perceptives small the forehead is over-hanging. The function of the Reflectives is to compare the impressions received from the other faculties with each other, and to draw inferences and make generalizations. They also give

the power to comprehend the relation of cause to effect.

It is by means of the Reflectives that the mind can make itself an object of study. As their name indicates, their exercise is a turning of the mind back

FIG. 46.—Well-Balanced Intellect.

upon itself. Their action in comparing, generalizing and discovering cause and effect is called reasoning. They give a meditative, thoughtful, philosophical turn of mind. The Perceptives give a matter-of-fact practical and observing mind.

CHAPTER XI.

THE PERCEPTIVES.

Individuality.—*Location.*—Individuality is connected with the brain which is situated in the lower central part of the forehead, just above the nose.

When developed it gives prominence to that part of the head.

The plates of the cranium are separated at this point, forming the frontal sinus. So in estimating the influence of this faculty this must be kept in mind, and the distance from the ear forward is the true index to the strength of this faculty.

Function.—Individuality is that faculty of the perceptive intellect which gives the sense of individual existence. Dr. Gall named the faculty the "Spirit of observation." This name expresses one phase of the faculty. That is, that it gives the desire to know of things as distinct individualities. It causes a craving to know what exists. It makes people ask the question, "what?" and gives the power of close observation of objects. A person with this faculty strong will see many things at a glance; for this faculty enables him to separate things into their distinct parts and comprehend each part as individual. He in whom it is weak will look at an object and receive but an indistinct notion of it. His mind does not receive all parts as separate from the others. He will pass along

a street day after day, and the objects seen will make so weak an impression upon him, that he may at one time declare a certain house has been built since he last passed along the street. The house has been there all the time, but his mind did not receive it as an object distinct from the general view.

Individuality is the analytic faculty. It separates an object into its distinct parts. It adapts man to the

FIG. 47.—Individuality. (Large and small.)

indivisibility of matter. It seeks to find that which is a unit. It is the leader of the intellectual faculties, leading out into the world of objects and of fact, and singles out the one from the others, and enables the other faculties to receive impressions from its properties and relations to others.

It is the first of the intellectual faculties to awaken in children. Objects first attract their attention, qualities next, phenomena and relations last. It

gives curiosity, and when the other intellectual faculties are weak it is an idle curiosity, for it peers into every thing simply for the purpose of seeing what exists. When the other intellectual faculties are also strong there is combined with this curiosity that which is created by the other faculties, the desire to know the properties, uses, history, causes, etc., of the object which has been singled out by Individuality. A person simply large in Individuality in visiting a museum will keep the conductor on a run and out of breath answering the simple question, "What is this?" One who is strong also in other faculties will see but few objects; for his other faculties have so many questions about properties, history, uses and causes, that but few can be examined. The person with deficient Individuality will be attracted by few things and will have very little definite knowledge of what is in the museum.

This faculty also individualizes abstractions of the mind. That is, it conceives wisdom, folly, ignorance, as objects upon which the other faculties may dwell and discover properties, uses, causes, etc. The ideas which Individuality furnishes to the mind are those represented by nouns. To him who is well-endowed with this faculty, all things and all conceptions have such a distinctness of individual existence that all his subjects and objects of thought stand out clear. His style of speaking or writing will be noted for clearness. While to him in whom the faculty is deficient, objects and subjects will appear so indistinctly that his utterance will lack pointedness.

The faculty is very essential in all kinds of intellectual labors.

Form.—*Location.*—When the brain with which this faculty is connected is developed it gives width between the eyes. When undeveloped the eyes are close together.

Function.—Form takes cognizance of the shape of objects. It gives the power to distinguish objects

FIG. 48.—Form. (Large.)

from each other by their form. It also gives the memory of forms. Cuvier could remember the form of an animal so well that long after he had seen it he could make a correct picture of it. Persons in whom it is deficient can with difficulty distinguish persons apart who slightly resemble each other. While those in whom it is strong remember distinctly those forms

which they have examined. It is essential to artists, architects and geometricians.

Written language is based upon this faculty. Letters and words are forms which represent the sounds used in spoken language. The sounds represent ideas. The ideas combined in a sentence represent a thought.

Children with the faculty weak can learn to read and spell only with great difficulty. Those with the faculty strong learn both easily. The difficulty with the former is that they have to examine a word closely before they recognize it, while the latter know it at once.

Reading should be taught by the word method. Children should be taught from the first to know words by their form. Spelling should also be taught by form. Let them remember how a word looks. Many words are pronounced exactly like other words which are spelled differently, while many are spelled differently from what they are pronounced.

Size.—*Location.*—This faculty is located next to Individuality.

Function.—Its function is to give the idea of space. It enables us to distinguish objects by their dimensions. Persons in whom it is developed can readily measure objects with the eye. It gives us more accurate knowledge of the external world. Especially in the study of geography is it very essential. An accurate conception of distances is an important element of geographical knowledge. In mathematics also it is of great use. In the study of these subjects the teacher should be careful to give the pupils a clear idea of the length of a foot, yard, rod, mile, etc.

In geography they should have a standard of meas-

ure, as, for instance, their own State; all other countries ought to be compared with this. They should be taught to use the scale of miles given on the map.

Weight.—*Location.*—This faculty is located outward from Size. When the brain is developed it produces depth and an overhanging appearance to the

Fig. 49.—Size and Weight. (Large.)

brow at the point where the faculty is situated. Fig. 49 shows it large.

Function.—It is the function of this faculty to give a sense of resistance. The force of gravitation must be resisted whenever we would move the body. To retain the upright position we must exert ourselves continually to keep the center of gravitation within

the base. And to keep this equilibrium requires a delicate perception of the force which draws us and of the resistance which must be applied to counteract it.

Persons in whom the faculty is strong are noted for their agility. They ride, skate, walk a rope, and perform all such feats with ease.

The artist who uses the pen or who engraves upon wood or metal must have this delicate sense of resistance to succeed in his work. The performer on a musical instrument also requires it. Those in whom it is deficient are awkward. They cannot exert force with accuracy. The artist presses too hard or too lightly. The performer cannot control his touch. Such persons lack grace of movement.

This faculty should be cultivated, but as it comes under the head of physical training the teacher has little opportunity to aid in it. Pupils should be required to move, sit and stand gracefully. It is employed in penmanship and drawing.

Color.—*Location.*—This faculty is connected with the part of the brain which lies outward from Weight.

Function.—Color perceives and distinguishes hues. Especially does it perceive the harmony of colors.

Some persons are unable distinguish colors at all. Others have a fair idea of colors, but cannot detect a lack of harmony in their combination. It is one of the perceptives and is useful to man in distinguishing objects from each other.

The artist in color, the physician, the manufacturer of steel implements, the dealer in dry-goods, must all have this faculty in a good degree. A lack of harmony in colors is as painful to him who is well-endowed with this faculty as a discord is to a musician.

Order.—*Location.*—When the brain with which this faculty is connected is developed, it gives prominence to the central part of the brow. When deficient that part of the brain is depressed.

Function.—Order is the faculty which perceives the succession and arrangement of objects. He who possesses it in a high degree will be pleased with the

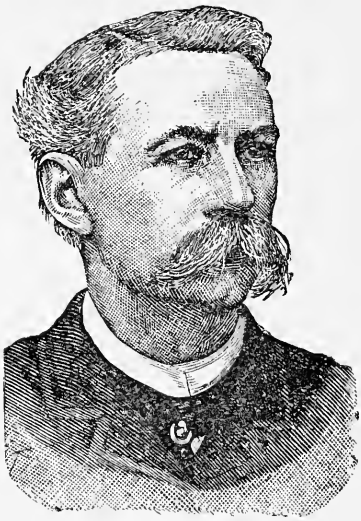


FIG. 50.—Color. (Large.)

proper arrangement of objects, and will have good taste as to the proper place for things that their arrangement may effect one most agreeably. Those in whom it is deficient have little idea of the proper arrangements; and when they make an effort at order, their taste is so defective that to one who has good taste their arrangement is the worst disorder.

This faculty takes cognizance only of physical arrangement and not of logical sequences and the systematic generalization of ideas. The latter depends principally upon the reflective or reasoning faculties. But perhaps Order gives a *love* for proper arrangement in the domain of ideas.

This is a faculty whose influence is very great in successful labor. The laborer, the merchant, the pro-

Fig. 51.—Order. (Large.)

fessional man work at a great disadvantage without it. The goodness of mothers often spoils children in this regard, by permitting the children to leave their playthings where they get through with them, and then the mothers or the servants put them away. Children should be taught early to put things where they belong. The best way to enforce this law is to deprive them of their privileges unless they live up to the requirement. In school the teacher should insist upon

the desks being kept in order. If bits of paper are thrown upon the floor each should be required to clean up his own litter. All the work of the school—studying, reciting, going out and coming in—should be in keeping with a certain order of procedure, which should be established upon the first day.

If the teacher adheres strictly to his order of procedure much trouble will be avoided which otherwise is unavoidable.

FIG. 52.—Number. (Large.)

The work which is put upon the blackboard should all be properly arranged. As much attention should be given to the proper presentation of a subject as to the accuracy of its results. It is worth the teacher's while to devote much effort to cultivating habits of order. It is for the students highest good and one of the most essential things in school government.

Number.—*Location.*—This faculty is connected with the brain which lies at the lower and outer corner ot the frontal lobe. When developed it gives

fullness in the region of the extremity of the eyebrows.

Function.—This faculty gives the idea of numbers and gives the ability to combine numbers. It gives talent for rapid and accurate addition, subtraction, multiplication and division. Combined with other intellectual faculties it gives mathematical talent. When it is deficient numbers are combined with difficulty.

It is active early in life, therefore, while yet very young, children can comprehend number and should be drilled in their combination. Then when the intellectual faculties are sufficiently active and developed for the solution of problems they will have no difficulty in rapid and accurate combination. They will then be able to add, subtract, multiply and divide rapidly and accurate, and will be spared the trouble arising from mistakes or slowness in these processes.

Language.—*Location.*—This faculty is connected with the brain which lies immediately above the superorbital plate. When developed it pushes the eye downward and forward. When deficient the eyes lie high and deep in the sockets.

Function.—This faculty enables us to associate certain states of the mind with signs which accompany them. By these signs other intelligent beings are able to perceive what are the mental states of others.

The signs which accompany mental states are of two kinds; natural and arbitrary. Any emotion, as fear, is accompanied by a certain expression of countenance. The feeling of pride throws the head upward and backward, as in haughty and arrogant persons. Affection is accompanied by caresses. These signs of

mental states are the same among all races of men and are understood even by the most intelligent animals. In fact, the animals indicate their mental states by the same signs. The bristling up of the dog is a frown indicative of anger. The cat caresses you when she feels affection for you. These signs constitute natural language. Animals never display arbitrary signs to express their feelings. Though some of the higher

FIG. 53.—Language. (Large.)

types seem to be able to understand them when used by man, as, for example, the horse that understands the word of his master.

It requires a greater amount of reason than the animals possess to associate certain mental states with arbitrary signs. When an animal feels anger the expression of it is involuntary, and the signs are not made with the *purpose* of giving expression to the

feeling. But man experiences a certain feeling and determines to give expression to it. To this end he employs the natural signs and also an arbitrary sign, as a spoken word. That is, he employs a means to an end and this requires reflection and the perception of cause and effect. He perceives that a spoken word can be made a means to secure the desired effect. Spoken and written language then are clearly inventions, made possible by the power of reason. Man makes clothing to secure a desired end, so also does he make words.

Persons well-endowed with Language learn new words easily, and are therefore likely to use unusual words instead of those in common use. They get a large vocabulary without special effort; for a word needs to be heard or seen but once. It is the great activity of this faculty that causes some people, even children, to use large and unusual words. They do not, as most people suppose, use them purposely to appear learned; but their supply of words being so great and the newest and most distinguished ones naturally presenting themselves first, they use them involuntarily.

Persons in whom the faculty is deficient learn words with difficulty, and therefore use the ordinary words which they have used many times before. Often they are unable to get a word to express their meaning.

The faculty of Language only remembers the words and does not learn their meaning. In fact, it learns and remembers words regardless of meaning. To understand the meaning of words depends upon the other faculties. The words *honor, duty, piety,* have

a very different meaning to different persons. A man who is but slightly moved by kindness will attach quite a different meaning to *honor* and *duty* than will he in whose character kindness is one of the strongest impulses. To an intelligent man of a deep and balanced religious nature, *piety* means something vastly different from what it does to the ignorant and base. Persons of deficient intellect and strong Language, often use learned words and apply them most inappropriately, to the great amusement of their companions.

While young, when the mind is not so much occupied by thoughts, this faculty is most impressible, and children learn a new language much more rapidly than older persons.

In teaching we should develop first the idea, then give the word which stands for it. And in learning the word attention should be given to correct pronunciation and spelling, or how the word looks in print or writing.

Tune.—*Location.*—When the brain with which this faculty is connected is developed, it gives width and fullness to the head, a little above and backward of the outer extremity of the brows. The temporal muscles begin over this place, it is difficult to estimate its strength.

Function.—Tune is the faculty which perceives melody and harmony of sounds. Those in whom it is strong have a good ear for music and have the power to originate harmonies. Those who are deficient in it can distinguish tones, but do not perceive harmony or discord, nor do they derive pleasure from melody. It is essential to the musician, but it alone does not con-

stitute musical talent. A good perception of time is also necessary to give a perception of intervals.

Tune may be possessed even by good musicians in only an ordinary degree. Music with them is only mechanical or imitative. They can become good perform-

FIG. 54.—Tune. (Large.)

ers. Those who form new melodies are comparatively few. The person who has the faculty in an eminent degree has music in his soul. He is not an imitator, but an originator. Fig. 54 is a portrait of Mendelsohn the eminent composer.

Time.—*Location.*—A good development of this faculty gives a fullness just above the outer extremity of the brow, forming a corner to the edges of the forehead. It is large in Fig. 53.

Function.—The perception of duration is the function of this faculty. It gives the notion of time and enables us to measure distance in duration as *Size* enables us to measure distance in space. It is essential to the musician and the poet. By its cultivation one can gain the power to tell the time of day or even to

FIG. 55.—Locality. (Large.)

tell the time of night on waking. It is essential to historical talent; not in remembering dates, but in having a correct idea of time between events. It leads to punctuality.

Locality.—*Location.*—See Fig. 20.

Function.—This faculty gives the perception of locality and direction. When it is strong the person has an instinctive knowledge of these relations of objects. He can travel in forest or city and depend entirely upon his instinct. When it is deficient he easily loses himself. What is east appears to be some other direction.

It is very essential in a well-balanced intellect although one may manifest much intellectuality without it. But without it all kinds of knowledge which depends upon a correct perception of localities will be very defective. Geography, History, Geology, Astronomy, Anatomy, in fact an accurate knowledge of nearly all sciences, depends upon Locality.

Cultivation.—The teacher should devote much effort to accurate knowledge of location and direction of places in geography. In history see to it that the pupils get the geographical part. They should be required to locate the places of events on the map, to make maps and diagrams of battles, and to describe the movements of armies. Map-drawing in geography and history is one of the most important parts of those studies; for accurate knowledge of them depends so largely upon the notion of location. Without this knowledge whatever else they know about them is almost useless. To understand thoroughly, for example, a battle, the student must be able to have a picture of it in his mind, and in this picture he must be able to point to the different armies and show the direction of their movements. Without these ideas he sees the event as through a thick fog. If he has a definite idea of locality he will have no difficulty in remembering all about it; for his geographical knowledge is a frame-work, upon which he hangs all other facts.

Eventuality.—*Location.*—Eventuality is situated in the center of the forehead. When developed it gives fullness to that region.

Function.—It relates man to actions, motions and changes. Its ideas are expressed by verbs. While the other intellectual faculties perceive the object and

its relation, this faculty perceives what it does or what is done to it. It creates the desire to know what is being done or what has been done. It wants to know the events which are connected with the object. It is the historical faculty. Those who have a good degree of it have great memory of events and are fond of all kinds of narration. Such persons learn easily every thing that pertains to actions. Those in whom it is deficient are said to have poor memories, for they for-

FIG. 56.—Eventuality. (Small.)

get what has happened—what events have transpired. They yet have good memories of forms, localities, etc. It is one of the literary faculties, for besides giving historical memory and the power to create a plot and invent a series of events, it is also a powerful force in Imagination. Individuality will personify a quality and Eventuality will attribute to its actions.

It is strong in nearly all children; hence, their great love for stories and fables.

CHAPTER XII.

REFLECTIVES.

Comparison.—*Location.*—Comparison is situated in the central part of the top of forehead.

When the brain is developed in this region it gives distance from the ear in that direction. Fig. 57 shows a large development.

Function.—"This is the faculty of comparing things and ideas, assorting them and distinguishing the like from the unlike. It perceives differences, resemblances, analogies and contrasts. It gives the talent for classification in science and for illustration in speech and literature. It gives birth to allegories, parables, metaphors and other figures of speech. It gives to business men quick, practical judgment. They compare the matter before them with what they have previously known and thus judge according to experience. When small the judgment is slow and the person seems stupid. When he talks he fails to state and illustrate his ideas clearly or popularly, he is unfit for a place where immediate decision is required.

"Almost every object or subject which can occupy the mind belongs to a class to which it bears more or less analogy; and it is the function of this faculty to compare all our perceptions together and perceive their resemblances and differences and the classes to which they belong. It harmonizes all our perceptions and

perceives the agreement among them. If a new object is presented to us, comparison immediately compares it with every thing else within our recollection, in order to know to what class it belongs." (Grimes.)

Comparison seeks to reduce multiplicity to unity—to find unity in variety. The reflectives give rise to philosophizing. Philosophy can be reduced to two processes, generalization or the apprehension of the one

FIG. 57.—Comparison. (Large.)

in the many, and discovery of the primary or first cause. The reflective faculties are only two, Comparison and Causality. Comparison gives the love of unity. The process of finding unity is that of comparing objects, classifying them according to their likenesses, and putting those classes which have likeness into one class.

Causality makes us feel that one thing depends upon another, and gives us the power to see this dependence

and the desire to trace every thing to the one thing or cause upon which all things depend.

Comparison is not satisfied until all things have been traced to a principle which explains the multiplicity of objects that engage the attenion. Newton's attention was attracted by a great variety of phenomena, the movements of the heavenly bodies, the falling of things toward the center of the earth, the tides on the seashore; when he discovered the principle of gravitation that explained all these, he was satisfied. Kant, being disturbed by a vast variety of phenomena about the earth and other planets, by a process of classification and generalization assumed the Nebular Hypothesis; this explains all these phenomena and his mind was at rest. He had apprehended the unity in multiplicity. Animal life is almost infinite in its variety. This has disturbed the minds of all thinkers and many have been the explanations to satisfy the craving after unity. The last hypothesis of philosophers is that of Evolution. As this is the unity which to their minds explains so much of this variety, and as it is in such complete accord with the history of the earth as read in its structure, they are gratified, and many feel that the unity has been found.

Causality.—*Location.*—Causality is situated on each side of Comparison. When the brain is developed at this point it gives distance from the ear to corners of the forehead. See Fig. 45.

Function.—Causality gives the perception of the relation of cause to effect. It so constitutes the mind that it can not conceive that any thing exists independent of every thing else, but the conviction is irresistible that one thing depends upon another, thus we pass an-

other and so on to the first cause. The mind is so constituted that we regard a thing as the effect of some cause, and also as a cause that will produce an effect. Causality then gives the idea of making an object the means for bringing about a desired end.

In winter heat is desired. Man knows that fire will produce heat and that fuel will support fire. So by means of wood and fire he secures the effect, heat.

Travelers in Africa tell us that if in the cool of the evening they build a fire, the monkeys will watch them from the tree tops. When they retire the monkeys will come down and hover around the fire. Although fuel is plenty and they can put it on the fire as well as men, and though they have seen the men build up the fire when it got low, yet these monkeys will let the fire go out. Why do they not put wood on the fire and keep themselves warm all night? The reason is evident. They can not perceive that the fire depends upon the wood as a cause. They can go to the object and get what is desirable, but can not comprehend that by doing one thing, that is putting wood on the coals, they can secure that which they desire. A monkey is capable of using a bow and arrow. He could use it in knocking down fruit which he can not reach. He can be taught to use it, but as soon as his master is not there to prompt him he will not use it. The bow is an object which he comprehends through his Perceptives. The bending of the bow and the flying of the arrow are events comprehended by Eventuality. But that there is any connection between the bending of the bow and flying of the arrow is beyond his comprehension.

Man's superior intelligence over the animals is due mostly to the development of Comparison and Cau-

sality. By these faculties he apprehends unity in the many, and comprehends how a means may be employed to secure a desired end. They enable him to create some thing new from what already exists. By these he overcomes the severities of winter by shelter and fire. He makes the earth produce his food, the winds and steam to convey his burdens, the lightning to carry his messages and to be his sunshine. By these he not only makes the external world conform to his wishes, but he also looks in upon the machinery of his own being and sees that to secure happiness he must restrain some of his powers and strengthen others. He discovers the means and by their application he raises himself from barbarism to civilization, from weakness to power, from misery to felicity. The possibilities of reason are almost unlimited. Every day it makes a new discovery which adds to human happiness. It makes man stronger than the elements. It makes him master of himself and he needs but to lay hold with the strong arm of reason and all things are under his feet.

CHAPTER XIII.

POWERS OF THE INTELLECT.

The intellectual faculties do not usually act singly, but many of them act together, each giving the ideas peculiar to itself. Nor do they always act in the same way. As the emotions have different degrees of activity, as expressed by caution, fear, terror—activities of cautiousness; and desire, love, passion—activities of any of the social propensities; so the intellectual faculties have different degrees of activity. In a treatise on the culture of the intellectual faculties it is better to give direction for cultivating the intellect in its several modes of activity. This is especially true as the strength and greatness of the intellect depends upon the perfection of these modes of action. As a person may have a good character and all his actions conform to the requirements of the right, even if he have only enough of the æsthetic faculties to simply appreciate the beautiful, and not enough to originate new forms of beauty as the poet does: so may one have sufficient of intellect to attend to his every-day duty and not enough to be superior in intelligence. He may have common-sense and be a man of good judgment in the affairs of life, but not be able to produce any work on literature or science.

Laws of Activity.—There are three ways in which the intellectual faculties may be brought into activity.

First.—They may be excited by the presentation to the senses of the external objects which are suited to call them into activity. As when a new machine is brought to our notice. We note its size, form, color, what it can do, its history and the principles that underlie its operations. Every property of an object awakens the faculty of the intellect which takes cognizance of that property. And when any property does not awaken its mental faculty as, for example, color, we say the person is destitute of the faculty.

Second.—They may become active by the excitement of the brain from internal causes. In a person of an active temperament the brain is very susceptible, impressions are easily made upon it and its actions are intense and continued. The blood is supplied in abundance, the brain acts involuntarily and without external cause. Each faculty produces the ideas peculiar to itself. The musician experiences melodies when he makes no effort to call them up. If the Perceptives be thus excited landscapes appear filled with all objects of which the excited faculties take cognizance. If at the same time some of the feelings are active, these air castles are filled with those things which are dear. It is this kind of activity which causes the inspiration of the poet. If this activity takes place during sleep we call it a dream. Dreams are often as vivid as the real, so also are the day dreams of the poet. A new world appears to him and he only writes what he sees therein. By fasting and causing the mind to dwell upon the mysterious and awful, one may bring about such an abnormal activity of the faculties, being ignorant of the causes, that these "Visions" seem as real as

life, and the person believes this to be the work of supernatural forces.

Third.—The intellectual faculties may be made active by an effort of the will. As when we undertake the solution of a problem. We can by an effort of the will make the faculties produce a landscape, trace out a line of causation, or do any thing of which the intellect is capable.

Perception.—When the intellectual faculties are called into activity by the first method, that is, by the presentation of an object suited to excite them and the mind takes cognizance of its qualities, it is said to *perceive* them. If a quality creates no idea in the mind, the faculty which takes cognizance of that quality is said not to perceive. If, for example, the property of color never creates an idea, the person is destitute of that faculty.

Perception is the lowest degree of activity of the intellectual faculties. It is the simplest act that they can perform. All the intellectual faculties have the power of perception.

When a person apprehends harmony in sound, the faculty of Time perceives. When the steps of an argument are logically and distinctly stated, and the hearer sees the necessity of the conclusion, he perceives the relation of cause to effect. If he can not apprehend the relation of the steps, nor the necessity of the conclusion, he does not perceive. Persons with small frontal lobes and an inferior temperament, or even a large frontal lobe and a brain of poor quality, are never able to manifest a higher degree of mental activity than perception. They understand ordinarily well the things which are presented to their minds, but they

never arrive at truth by the creative energy of the intellect. They possess no originality. They mark out no paths for themselves, but walk in those that others have made.

Perception is also the first made in which the intellect manifests itself. The child is attracted by objects which have marked peculiarities in form, color, etc. The early part of its life is occupied entirely by the study of objects. It never removes the quality from the object and makes it a subject of thought. It can say, "This rose is more beautiful than that one;" but it never says, "The beauty of a rose is greater than the beauty of a lily." So it says, "I love you, mamma," and never, "I have much love for you mamma." The power to abstract qualities from an object and to make mental states subjects of thought comes later in childhood.

Perception being a power of each faculty, it follows that the perceptive power of each faculty differs from that of another as the strength of the faculties differ. One may have good perception of number and poor perception of harmony. Or, he may have good perception of all properties and relations except that of cause and effect.

Conception.—Conception is a different mode of action and also a higher degree of activity than Perception. The mind in the act of Conception does not require the presence to the senses of external objects, but it is active from internal causes. If we look upon an animal and call it a leopard we *perceive*, but if upon the mention of the name, we form a correct mental picture of it we *conceive*. If a person has strong and active Tune he is able to conceive harmonies when no

instruments is sounded. Causality in the act of perception takes cognizance of causation when objects and results are present to the senses, but in the act of conception it forms arguments that are the results of the intellect's creative energy. The fact that force could be transmitted through an electrified wire was a percept, but Morse's idea of utilizing that force to transmit intelligence and the adjustment of means so that this could be done, was a concept. Perception is the apprehension of things, qualities and relations that are present to the senses; Conception is the apprehension of things, qualities and relations, not present to the senses. Perception has to do with external objects; Conception has to do with ideas derived from material things, that is, with the "disembodied spirits of material things."

Conception is a higher degree of intellectual activity than Perception. A man of a moderate degree of intelligence and training can write a common-place history, for this requires little more than good perception and memory. But only an intellect of great vivacity and conceptive power can produce a history like Dicken's "David Copperfield." It required creative energy to write the latter.

Conception depends very largely upon training, and it is the object of higher education to develop this power. But a high degree of Conception depends mostly upon the original constitution. A high degree of Conception is genius. A small frontal lobe and a sluggish, inferior, temperament never exhibits genius. A good-sized brain and a superior temperament are the conditions which accompany this creative energy. Such a constitution does not plod along with material

things, but new ideas spring spontaneously into existence. In the poet a new world of beauty and love is created.

> "And as imagination bodies forth
> The forms of things unknown, the poet's pen.
> Turns them to shape and gives to airy nothingness.
> A local habitation and a name."

Imagination.—Imagination is the highest degree of activity of the mind. What passion is to the feelings Imagination is to the intellect. It does not differ from conception except in vividness. When we look upon Naples and get a correct idea of the city, we perceive; when we form a mental picture of a city on the sea-shore, we conceive; and when this picture has unusual vividness, it is called Imagination. Conception adheres more closely to the truth, while Imagination forms unusual, beautiful, awful or fantastical pictures.

The poet, the artist, and the orator are said to exercise Imagination.

Abstraction.—Abstraction is one of the elements of Conception. It consists in individualizing a quality, and considering it apart from the thing to which it belongs. In the sentence, "Red roses are beautiful flowers," all the ideas are concrete. The things spoken of have a physical existence. But when we say "Redness is an element of beauty." "Redness" and "beauty," are qualities considered apart from any object and have no existence except in the world of thought. They are creatures of the mental faculties. Abstraction results from the action of Individuality and some of the other faculties. The faculty of color gives the idea. Individuality apprehends this idea as

having an individual existence, and can then be made the subject of thought. Wisdom, indecision, melancholy, are all the properties of objects, but through the power of abstraction they themselves became objects that can be studied. Abstraction peoples the mental world with things as real to the mind as the objects of the physical world are real to the senses.

Generalization.—Generalization is an element of Conception. It results from the activity of several of the intellectual faculties, combined with Individuality and Comparison.

By the power of Abstraction an object is examined, its qualities are made objects of study. Comparison contrasts one with the other and notes their points of likeness and difference. Then, by another act of Individuality, conceives those that are alike to be a distinct individuality forming a class. This is forming a general notion from particular ones. These classes are then compared, and those that have like attributes are placed by Comparison and Individuality into a separate class, and so the formation of classes goes on until the most general notion is formed. Thus, in the study of the noun, we find that it expresses whatever the object is, of the male or female, neither male nor female, or no sex. These facts are gathered by Individuality and other perceptives. Comparison apprehends their likeness and Individuality forms a new notion and calls it Gender. In like manner the other properties Person, Number and Case are discovered. These notions are again combined into one and called Properties. A further examination shows that nouns differ as to meaning, this leads to the new notion of Classes. Then a combination of Classes and Properties

leads to a more general notion still, and this is called the noun. This process of examination, comparison and individualization is called Generalization.

Synthesis.—This method of beginning with the particulars and forming more general notions, combining the general notions into one more general, is called Synthesis. The synthetic method of Generalization is that which is employed by the young mind. It is in this way that children get their first ideas and knowledge.

Analysis.—Beginning with the general notion, and separating it into classes and properties until we get to the particulars, is called Analysis. But before this method can be employed the mind must have formed at least an imperfect general notion. The Analytic is therefore the method employed by matured minds. By the analytic method of investigation, we get a more thorough and exhaustive knowledge of our subject. Therefore a study should be begun by the Synthetic method, but should be completed by the Analytic.

Concept Defined.—A concept is a mental picture formed by the creative energy of the intellect. If a word be mentioned which calls up in the mind no idea, we form no concept. If a word like *man* or *wisdom* be uttered, the mental picture of the former, and the well-defined notion of the latter is a concept.

Kinds of Concepts.—An examination of concepts will show that they are of several kinds. As to nature they are *concrete* and *abstract.* As to structure they are *particular* and *general.*

Concrete.—The mental picture of material object, such as *book, tree,* is a concrete concept.

Abstract.—The notion that is formed of a quality taken apart from any object, as *whiteness* or the concept of a thing which exists only in the mind as *science, truth,* are abstract concepts.

Particular.—The apprehension of the individuals that go to make up a general notion is a particular concept. *Eagle, lion,* are examples.

General.—A general concept is one that is represented by a name which includes in it all the individuals, classes and classes of classes, as *animal, fishes,* etc.

General concepts are the most difficult for the mind to form clearly, distinctly and adequately. The abstract particular, and particular abstract are formed by the minds of children six years old. But general concepts are formed only by maturer intellect. At first they are formed imperfectly, but by analysis and synthesis they are so clearly and adequately formed that by the use of a single word volumes are suggested. How much there is in the word *mind!* Only those who have come up to the meaning by synthesis and tested their knowledge by analysis are able to form a conception of it. A very large part of intellectual culture consists in training the mind to form general concepts. Therefore a careful analysis of the processes involved in forming clear, distinct and adequate general concepts, must be given.

Division.—Separating a general concept into classes, these classes into sub-classes, these sub-classes into individuals, is called Division. Take for example the verb. By comparing many verbs we find that they can be divided according to nature into active and substantive verbs. The active verbs can be divided into tran-

sitive and intransitive. Then we reach the individual or particular concept. The substantive can be divided into copulative, auxillary and independent. As to form, verbs may be divided into regular and irregular. Classification is a most important factor in science and in all knowledge. Knowledge unclassified is almost useless. This fact should be borne in mind by the teacher.

Description.—When we have separated the general concept into its classes we next proceed to discover the peculiarities of each. Then we learn the properties of the individuals, this we call Description. In the verb we discover the properties of voice, mood, tense, person and number. By division and description we get a fair knowledge of the truth concerning any subject we are investigating. But to make our concepts both general and particular, more clear and distinct, we must describe the boundaries of each; show how the concept under consideration is connected with the general concept of which it forms a part, and separate it from other concepts of equal rank. This process is called

Definition.—Definition may be defined as giving the boundaries of an idea or concept. In a logical division of words or Parts of Speech we have this outline:

I. Parts of Speech.
  1^1. Noun.
  2^1. Verb.
    1^2. Classes.
      1^3. Active.
        1^4. Sub-classes.
          1^5. Transitive.

To give a good definition of verb we will have to show how it is connected with the more general concept, "Part of Speech," then we will have to show how it differs from its co-ordinate "Noun." Verb then would be defined, as that part of speech which expresses action or being. Noun would be defined, as that part of speech which represent an object or an object of thought. Transitive would be defined, as that sub-class the active verb, which represents the action as passing to an object.

It is by the processes of Division, Description and Definition that a concept is fully developed. These processes give comprehensiveness, thoroughness and accuracy to our knowledge. When our knowledge is thus classified, analyzed and defined, each fact resembles a volume in a well-arranged and indexed library. It is always at hand. We may have learned a million facts, but unless they are classified, analyzed and defined, they resemble so many books thrown together in a heap.

Memory.—Memory is the power of the intellectual faculties to retain and to recall impressions which they received. These impressions must be accompanied with the conciousness that they have previously existed. Memory is not a distinct faculty of the mind, but is only a mode of action of every intellectual faculty. Each faculty has its own memory, so persons may have a good memory of one thing and a poor one of others, depending on the strength of the faculties.

Memory differs from Conception only in this, that it revives impressions that existed previously, while Conception form new impressions. Memory is of less

importance in education than is usually supposed. Clear, distinct and forcible concepts and percepts are of greatest importance. When these are formed we say that some thing has been well-learned and is thoroughly understood; and when this is the case there is no difficulty in remembering. It is only feeble and indistinct impressions that are easily forgotten.

The more attention there is paid to percepts and concepts and the less to memory, the better will be the progress of the student. The decay of memory is always accompanied by the decay of all intellectual power; though the failing memory is the most noticable. Age does not impair the memory of early life. It is later impressions which are forgotten and this is so because at the time the brain was not in a condition to receive strong impressions.

Reason.—Reasoning is a power of the Intellect. It results from the action principally of Causality and Comparison, though all the intellectual faculties are engaged in the process to a greater or less extent. Reasoning is defined by Dr. Brookes as, "The process of comparing two objects of thought through their relation to a third." "Thus," he continues, "suppose I wish to compare the two objects, A and B, and see no relation between these two objects; but perceived a relation between each of them and a third object, C; I can then infer a relation between A and B which I did not immediately see. That is, if A equals C, and B equals C, I can infer that A equals B. Such an inference is a process of reasoning."

In every form of reasoning there will be found two steps, and the relation between them is apparent; but the third step is revealed only by a clear comprehen-

sion of the relation between the first two. Take the syllogism:

All men are mortal.

Socrates is a man.

Hence, Socrates is mortal.

The first two statements are facts that have been gained by the Perceptives, but the third comes to the mind by comparing the statements, "All men are mortal," "Socrates is a man," "Socrates is mortal," is a necessary conviction arising from the action of the faculty of comparison. This kind of reasoning seems to be nothing more than analysis. An analysis of the concept man, shows that it is made up of individual concepts. Each individual has the attribute of mortality. We recognize Socrates as one of the individuals of the complex concept, man.

In the syllogism:

A=C, B=C, hence A=B. We have the relation of quantity, size or value. In the syllogism: All men are mortal, Socrates is a man, hence Socrates is mortal: we have the relation of attribute. In reasoning from cause to effect the process is the same, and the idea of cause and effect enters into it instead, as in the first quantity and in the second quality.

Electricity causes sound to be transmitted through a wire.

The human voice is sound.

Hence, electricity will cause the human voice to be transmitted through a wire.

The faculty of causality gives the idea of cause and effect; but Comparison is the principal faculty in reasoning. So if a man have good perceptives and Comparison he will be a good mathematician, for in

mathematical reasoning quantity, is the object of thought. But if he be deficient in Causality he will be but an indifferent reasoner in questions that embrace cause and effect. The inventor and the philosopher must have a large degree of Causality with the other intellectual faculties.

In the application of means to secure an end, the reasoning deals with cause and effect, and is just the same as it is in a syllogism. In the last syllogism given we have the reasoning which gave the idea of the telephone; but before the human voice could be transmitted through the wire, certain means had to be employed; for speaking at one end of the wire will have no effect. It was next discovered that the vibrations of a metallic plate can be transmitted through the charged wire, and that the plate vibrated in unison with the human voice. Thus the idea of the telephone was complete.

Kinds of Reasoning.—There are two kinds of reasoning, depending upon the manner in which the truth is arrived at.

Deductive Reasoning.—Deductive reasoning is the analytic method. It proceeds from the general to the particular. It begins with the law and arrives at the facts which prove the law. Thus the general truth or law that heat expands all metals is assumed and we infer that iron, a particular metal, is also expanded by heat. Putting in the form of a syllogism we have:

All metals are expanded by heat.

Iron is a metal.

Hence, iron is expanded by heat.

Inductive Reasoning.—Inductive reasoning is the process of deriving a general truth or law from partic-

ular facts. By observation we discover that heat will expand iron, lead, gold, etc., and believing in the uniformity of nature we infer that all metals are expanded by heat. Thus it is seen that we pass from the particular to the general. The syllogistic statement is:

Iron, lead, etc., are expanded by heat.

Iron, lead, etc., are all metals.

Hence, all metals are expanded by heat.

It will be observed that the two methods are the reverse of each other. One is analytic, the other is synthetic. Both may be applied to the same kind of truth; but each is better adapted to a particular kind. Truths may be divided into *necessary* and *contingent* truths. A necessary truth is one of which the opposite cannot be conceived. "All right angles are equal," "A straight line is the shortest distance between two points," are necessary truths. "Heat expands all metals," "All men are capable of intellectual improvement," are contingent truths. That there should be a man incapable of intellectual improvement involves no absurdity; but that a straight line is not the shortest distance between two points does involve an absurdity.

Mathematical truths are necessary, and the deductive method is best adapted to that kind of truth. The proof of a necessary truth is called a demonstration, and the reasoning is called demonstrative reasoning.

Truths in natural science are contingent, and the Inductive method is best adapted to such truths. The reasoning is called probable reasoning.

Hypothesis and **Theory.**—In the investigation of natural science the first steps are taken according to

the Inductive method. That is, a certain number of facts are observed without any reference to a general law. As, for example, the philosopher observed several facts in regard to the earth, taking these facts as the basis, he inferred that the earth is a globe. Now he had no means of knowing absolutely that his inference were true. But he assumed it to be true and sought for all the evidence to establish it. This supposition of the rotundity of the earth is an *hypothesis*. Now if all the facts are in accord with the hypothesis, it is said to be verified and is then called a *Theory*.

Kant conceived that the earth was once a vapor or nebula, that gradually collected and cooled, and after long ages the earth attained its present form. This was called the Nebular Hypothesis. All the facts of Astronomy, Geology, Geography and History are in such perfect accord with this supposition, that it may be said to be verified and should now be called a Theory.

Hypotheses are short cuts to great truths. Though they are false, they yet open the way and lead to the true hypothesis. The path of science is strewn with discarded hypotheses. But each stimulated investigation and served a useful purpose.

THEORY OF EDUCATION.

CHAPTER XIV.

THE THEORY OF EDUCATION.

Source.—The correct theory of education must evidently be obtained from a knowledge of the nature of man, the constitution of his mind. In Part I. we have studied the mind, its faculties and their relation to the external world and to conduct. It remains for us now to determine the purpose of man's being, what is necessary to secure that purpose, and in what way this purpose may be secured. To get a better idea of the mental nature of man we will compare it with that of the lower animals.

Mental Nature of the Lower Animals.—The line dividing animal from vetetable life has not yet been definitely settled. And although there is a great similarity between the higher animals and man, yet the difference is vast. But it is apparent to every thoughtful person that as we pass from the lowest to the highest forms of life there is a gradual increase in the complexity of organization, and a constant increase of activity, from the simple and only power to assimilate food to that reason that masters nature, and that power of feeling that allies man to God. As we pass up the scale of animal life we find more complex structures. Here we find the rudiments of a nervous system, and the power of sensation and motion. These powers are accompanied with the mental desire

for agreeable sensation and exercise. Going a little higher we find a more complex nervous system, and greater power of sensation and motion. A little higher up we find considerable intelligence manifested in self-preservation.

Above these we find animals that are capable of providing homes. They love their young and live in communities, and often work together for mutual good. The highest animals have a nervous system almost as complex as that of man, their physical powers are in many cases superior, and their intelligence so great that we can not deny them a degree of reason.

In some of the feelings, and even in intellect, animals and man approach each other very closely. Yet there is a vast difference between them. Animals have the Self-relative faculties: the Domestic Propensities, the Governing faculties, the Perceptives; but if they have the conforming, the Æsthetical and Reflectives, these are in a very inferior degree of development.

Being deprived of the conforming faculties and reason, their nature is practically a unit. All their desires have but one end in view and that is, the gratification of self. The animals are creatures of impulse, and their impulses are always in the same direction. This is not strictly true; for the impulses that move them to actions sometimes conflict, yet it is so rare that practically their nature is a unit, and the highest good to the animal lies in following its impulses until satisfaction results. No thought is necessary; for there is but one way, and that is to follow the impulse. In a state of nature the instincts of animals are right, and it were useless if it

were possible, to teach them what to do. So animals are as they should be. They can not be better fitted to secure the end of their being. The animal is in perfect harmony with itself and the external world. The lion kills the helpless lamb, licks his jaws with satisfaction, lies down and sleeps the sleep of the innocent. Should he awake and manifest remorse because of the deed, we would declare him a most unhappy creature, being thus driven by an impulse to do a thing, and then tortured by another impulse equally irresistible. There is no conflict in the mental nature of the animals, their impulses or instincts are right, and the highest good to the animal comes through following this instinct. There is no need for a change, no need for education.

The Mental Nature of Man.—Man has all the impulses or instincts to action which the animals have; but he has beside these the conforming or moral faculties. These interest him in his fellows, and cause him to desire to do some thing for them, and this desire is often in direct opposition to another desire to do some thing for self. To-day man desires an object for self-gratification; he follows the impulse; to-morrow his conscience smites him for the act. His Benevolence prompts him to a deed of charity; his Acquisitiveness suffers; for this deed has cost a loss of property. His Self-esteem prompts to words of pride; Veneration condemns these, and prompts to humility. The appetites prompt to sensuality; the Æsthetical faculties defeat these desires and turn them into another course.

Man's mental nature seems to be dual, having impulses that prompt to opposite courses of conduct. There is a constant conflict in the very source of actione

that so confuses him that he has no rule of conduct, and is as likely to do himself harm as good. In a pure state of nature he is a most unhappy creature. There is no harmony in his instincts, and he has reason enough only to make him superstitious and cowardly. He is thus the victim of mental and physicial weakness. Living for centuries in this state of doubt and darkness, gradually by bitter experience he learns a few principles of conduct; these lead to others, and after ages of suffering, he is able to control his impulses in a way that will bring him the most happiness. He learns to master himself, and the elements about him, and thus brings himself into harmony with himself and with the external world, and then we call him civilized. We see then that man in a state of nature is not what he should be, but that there must a great change be wrought in his mental nature in order that he may realize the purpose of his being. There is need for education.

The Harmonizer of Man's Nature.—The animals require little intellect; for they are adapted to the external world, and their instincts are unerring guides to conduct. But men without the reflective intellect would not be adapted to all parts of the world in which he must live. He is not even able to get his food unaided by reason. He can not defend himself against the wild beasts unless he can command a greater physicial force than that furnished him by nature. He can not live in all climates in a state of nature. In the north he must protect himself against the cold; in the south against the heat. He can not follow his instincts, for they conflict and prompt to opposite actions.

Man has been endowed with a higher degree of the

perceptive intellect. By means of these faculties he is able to observe the objects about him, can know their properties, and their relations to each other and to himself. In memory he can keep his knowledge for future use. He has been endowed with the Reflective intellect, by means of which he can look in upon the operation of his own faculties, compare impressions obtained, and arrive at general truths. By these he comprehends the relation of cause to effect. Then if he desires a certain result he may apply the cause and create what he desires. By the co-operation of all his intellectual faculties he is able to know himself as he is. Through intelligence man is able to know the properties of all things, and their relation to one another, their effect upon each other. Furthermore he is able to apply these relations and forces in such a way as to produce any result which to him seems desirable. By his knowledge and the manipulation of the forces inherent in things, he is all-powerful almost in his sphere of action.

A knowledge of things as they are is truth. The animal needs only to follow impulse and all is well with him, but man must first get at the truth, and then follow the impulse which is in harmony with the true. When man has the truth then he can direct his conduct in such a way as is most beneficial to himself, and also to those to whom he is related; that is, he can act in a way that is in harmony with the whole nature and with external nature also. If he does not have the truth he is likely to act in a way to injure himself. When he has a wrong conception of things, he may act so that his well-intended acts result disastrously. When he possesses the whole truth he can direct his

conduct with as much assurance of gaining that which is for his highest good as can the animal by following its instincts.

Man can not rely upon his instinct alone, he must rely upon the truth. It is the light to his path, and the unerring guide to his happiness. The intellect makes it possible for man to know the truth, and thus becomes the harmonizer of his conflicting nature. It consists of those powers which make him master of the forces of nature, and if these do not work to his advantage, he compels them to do so. By the power of the intellect he makes the winds, electricity, the ocean, gravitation, and every substance and force do his bidding. It enables him to know his own powers, and by all this truth he is able to bring all forces to bear upon himself, and so make himself stronger, better and happier. Thought and experience are the parents of truth. They have taught man when and under what circumstances it is the best to indulge and when to restrain certain impulses. They have taught him that honesty is the best policy, that to love his neighbor as himself is productive of most good. Profiting by his thought and experience he has raised himself from the darkness of savage life to the light of civilization. As a civilized man he can adapt himself to all conditions imposed upon him by his surroundings and by his own constitution. By means of the truth he has found the way that leads him to his highest happiness and well-being, and this way he calls the Right.

The Right.—Fitness is at the foundation of the right. That which is in harmony with every thing else that has fitness is right. We may strike several notes on an instrument. These notes are in harmony with each

other—that is, they have fitness. If we strike another note and it too harmonizes, it too has fitness, and is therefore right. But if we strike one that does not harmonize we destroy the fitness of these tones, and this is analogous to wrong. Every man holds a certain relation to every other man. Now if each man is in a state of fitness himself, and each acts in such a way as to harmonize with himself and with his neighbor, he does the fitting thing, or he does the right. Right between man and man is then an act which accords with the well-being of all. The right secures benefit to some and injury to none.

Man has many desires, and a certain way of gratifying one desire gives pain to another. It therefore becomes necessary for him to determine how he may gratify the one without injury to another. His acts must be such as are fitting to his own nature when it is in the most fitting condition. It is in the most fitting condition when the superior faculities hold the supremacy, and the intellect is enlightened with the truth.

Man holds a certain relation to his Creator, and he does the right when he is in a state of fitness to that relation. An act or a course of conduct is right when it results in man's highest good, and wrong when it works injury to self or to others. Right is the straight and narrow way that leads to life—that is, happy existence. Wrong is the broad road that leads to death. To do the right requires effort and knowledge of the truth, but to do the wrong requires neither.

What Man Must Do.—Man must, therefore, not follow his impulses, but obtain the truth and by its light he must endeavor to do the right. Any other

course is destructive of his happiness and well-being. To do the right requires two things:

First. He must have an extensive knowledge of the truth about himself, and all those things with which he comes in contact. This knowledge prevents his doing wrong from ignorance.

Second. All his impulses must be brought under such control that they will always be subservient to enlightened intellect and will. The higher motives, such as conscience, kindness, faith, hope, sympathy, and purity, must be so strong as to have a controlling influence in the mind, and thus direct the will toward the right; and being thus fortified by truth and controlled by superior motives, the lower impulses are made to be servants and man is almost certain to do the right.

The Ideal Man.—As we have seen, man in a state of nature, although superior to the animals in capability, is inferior to them in the inability to realize all the possibilities of his nature. It requires only a few years for most animals to reach the perfection of which they are capable. The men who have in this day of enlightment reached the highest degree of culture are inferior to those who are to come after them. The ideal man is he who has reached the full and harmonious development of his physical and mental natures. The possibilities of their development become greater as knowledge of the truth becomes more complete. The best man is he whose physical nature is strong and in good health, whose intellect is vigorous and enlightened with an extensive knowledge of the truth, whose impulses are strong and under such control of the will that at all times he does the right. He

who can thus control himself and the powers of nature is in a state of freedom. It is this freedom that most distinguishes the ideal man from the savage.

The Purpose of Man's Being.—All things that have life seem to strive to become perfect. The acorn strives to become a perfect oak. The cub strives to become a perfect lion. Man is not an exception to this law. He too should strive to become a perfect man. But as we have seen, mind is by far the greater part of the man. So while he should strive to become perfect in body he should strive far more to become perfect in his mental nature. The perfection of his mental nature is secured when he can use all his faculties to the full extent of their power, and can obey habitually the dictates of conscience and reason—when he has gained that rational freedom that distinguishes the ideal man from the savage.

Happiness is the incentive that leads him to desire his freedom; for it is only then that he can exert all his power with greatest ease and realize that happiness for which he seeks.

Education.—The process of obtaining the free, powerful, and right use of every faculty of the mind is called education. It is the process of obtaining rational freedom. Education consists of two processes:

Instruction.—The first process is instruction. This consists in presenting to the mind the opportunity to obtain truth. Instruction may be given orally, in books, or in any other way that one mind aids or influences another to obtain knowledge.

Training.—The second process is training. This consists in liberating the intellect by appropriate exer-

cise, so that it may act freely and vigorously. Training also includes the subjection of the lower impulses to the higher ones and to reason, so that conduct may be right.

A Process of Liberation.—Vegetation differs from inorganic matter in this, that vegetation has the power of vital action. Plants absorb inorganic matter and transform it into tissue. They have the power to grow. Animals differ from plants in possessing more activities. The higher animals differ from the lower in having more bodily and mental activities. Man differs from the higher animals in that he has greater bodily, intellectual and moral activities. He has reasoning, moral and æsthetical faculties. The improvement of any object possessing life, consists in liberating its activities, so that they may act vigorously. The wild apple possesses the power to store up in its fruit certain ingredients which are good for food. The cultivation of the apple has in view the full development of these powers. The muscles of the arm and hand are capable of a wonderful variety and rapidity of movements. The student of music seeks to set free these muscles, that they may manifest their full power. The intellectual faculties are at first incapable of manifesting their entire power. The mental operations of the beginner remind one very forcibly of the unskilled performer on an instrument. By appropriate exercise the faculties are set at liberty. So with the moral forces, they must be liberated by exercise and training that they may act to the full extent of their power.

The brain of a child is like the egg: it contains only the elementary powers. When the egg is placed in the

proper conditions, these forces begin to become perfected and the bird is formed in miniature. It breaks the shell, gets the use of its legs, then of its wings, and by a few days of exercise it is a completely finished bird, and can use all its powers to their greatest capacity. So the brain of the child contains all the powers of the man; but these powers are confined and under restraint. By exercise in the school or by contact with the world, these powers are liberated. The completely developed or educated man, with one sweep of the imagination comprehends the world, and with the strong arm of reason he masters the forces of all nature. Newton, Luther and Columbus were endowed by nature with great powers of mind, and they possessed these powers as children. Had the circumstances in which they were placed not been such as to set the powers at liberty, they would never have shown them. The man is nothing more than an enlargement of the boy with his faculties set free. Education then is a process of liberation.

A Directing Process.—The mind is made up of many faculties, and there must be a difference in their rank. Some are adapted to be servants, and others to be masters of the will. Each feeling or motive has its sphere of activity, and in that sphere it produces good; out of that sphere it produces evil. Were a man adapted to life in solitude he might gratify his love of gain to any extent; but being a social being, he may gratify it only so far and in such a way that it does not interfere with the rights of his neighbor. It is evident that the selfish propensities are inferior to the moral sentiments, and where they interfere with the proper activity of the moral feelings, they must give way, and allow

kindness and justice to prevail. The intellect enlightened with the truth furnishes that knowledge which is necessary to show the good or evil of a certain course of conduct. The higher motives incline the will toward the good in preference to the evil, and therefore the intellect and moral sentiments should hold the supremacy in conduct. The educator must, therefore, seek to so direct the mind as to establish this supremacy. Education then consists in (1) furnishing a knowledge of the truth, (2) of liberating the mental faculties, (3) of directing and training the will to do the right.

Man a Social Being.—Man is endowed with social feeling which attach him to his fellows, and make his happiness and well-being largely dependent upon them. Races deficient in the domestic feelings are slow to become civilized. When men co-operate in their work their intellectual and moral faculties are called into activity, and knowledge and virtue are increased. The gratification of his domestic nature, from which arise the family and the home, adds greatly to his happiness. This domestic nature demands, that if man would reach perfection and complete happiness, he must love his fellows and be loved by them in return. This compels him to surrender his independence, and requires him to regulate his conduct in such a way as to adapt himself to the requirements of his social nature. His desire for the companionship, co-operation and love of others puts him under obligations which must be met. One of the great problems of life is, how to regulate our conduct toward others.

As his education is to fit him for the discharge of his duties, it is important that his education should

be conducted under the most advantageous circumstances.

The Place for Education.—Since conduct forms so great a part of life and of education. Education can be best promoted where the pupils are in those circumstances to which education seeks to adapt them. In the company of their fellows, children will daily learn the lesson of right feeling and conduct toward others. The school should be a miniature world, in which children are trained for the real world. The sexes should be educated together, for this is the normal condition of society and to separate them is to deprive them from the opportunity of preparing themselves to most properly discharge their duties in life.

Social Unions.—The social propensities attract individuals to each other and form unions that will best secure the gratification of those propensities. Each of these unions constitutes a sphere of activity which each individual should be prepared to enter, and be fitted to fulfill its requirements. So each social institution becomes a place of education where persons can be best prepared for its duties.

The Family.—The family is a social union consisting of the parents and their children. The parents find in their love for each other and in their love for their children, the source of greatest good to themselves. The children are here reared by those who possess for them the strongest of social ties. All their interests are cared for as they can be no where else. And in the home under the influence of unselfish love, their early education can be best secured. In the home too they can be best trained to love the pure and the good, and be grounded in those virtues that lie at

the foundation of noble manhood and sweet womanhood.

Home Education.—In the home children should be taught to speak their mother tongue correctly. They should be trained to respect superiors, to be kind to inferiors, to allow equals the same privileges which they want for themselves, to exercise patience in difficulty, and to be obedient to rightful authority. They should be required to do these things from right motives, and continually, so that when they go into the world they will do them habitually. When they are old enough they should be required to do some useful work, that will require effort and self-reliance. If these things are not learned in youth, the boy or girl begins life at a great disadvantage. But the boy or girl who is respectful, kind, industrious and self-reliant is sure to succeed even if what is usually called education has been neglected. Such a home education is worth more than a college education without it. Such a boy has a better start in life than has the heir to a fortune who is destitute of this home education.

When both boys and girls reach the age at which they can exercise judgment and when their curiosity begins to inquire into all mysteries, they should be taught by father and mother the truths about their own bodies and not be allowed to learn these things from lewd associates. But let the mother in the holy hour of communion with her daughter reveal to her the mysteries of life and fortify her young heart against evil, and impress upon her the sacredness of the mission that the Father of All has given to her. Then let her be reared to fit herself for the discharge of her sacred duty.

Society.—Society is a social union more general than the family. Its object is to secure the co-operation of many individuals in those pursuits that are necessary to the well-being of each individual. It is also the source of gratification to many of man's faculties which do not find opportunity in the family alone.

To do one's part in Society he must be able to follow some useful occupation by means of which he can render an equivalent for what he receives from others. He should also learn to conform willingly to those customs and practices which are for the happiness and welfare of others. Should be able to do his part in the elevation and education of those less fortunate than himself. Should do his part in Church, State, and in every cause that tends to benefit his fellows, and should help to institute the reforms which the good of society requires.

The State.—The State is a more extensive union than Society. If all men had a complete knowledge of the truth, and were at the same time disposed to do the right, universal good and happiness would prevail; but none have a perfect knowledge of the truth, and many are not disposed to do the right from self-conformity, so it becomes necessary for the wisest in society to make known what is right, and compel conformity to the right. For this purpose society has organized the State. The function of the State is to say what is right between man and man and between man and the institutions of society. And then to compel obedience to the laws which it makes.

The ignorant and vicious are those who are most dangerous to society, and who commit crime. The State regards it the better policy to diminish the num-

ber of the ignorant and vicious by giving to the children a knowledge of the truth, and training them to habits of virtue. The State seeks to make good citizens, and for this purpose has organized the SCHOOL.

THE PURPOSE OF THE SCHOOL.—From what has already been said the purpose of the school will readily be inferred. In this division the purpose of the school and how to realize that purpose will be more extensively discussed.

The purpose of the school is to secure that education which can not be so readily secured in the Family and in Society. The ends sought in the school are two: (1) The liberation of the intellect, or the realization of the truth; (2) The adjustment of motives and actions to the requirements of man's nature, or the realization of right conduct.

CHAPTER XV.

SCHOLARSHIP.

Restraints on the Intellect.—The capability of the intellect to reach a high degree of efficiency and power depends primarily upon the original constitution, or on the size of the frontal lobe and the quality or temperament of the body. Yet the gigantic intellect of the philosopher was at one time as much restrained by nature as that of the mediocre. The brain, like the muscles, is not strong in childhood. It is by exercise that it becomes strong and obtains ease of action.

So the intellect is confined by the weakness and immaturity of youth. These restraints are overcome by time and exercise.

There is another class of restraints that bind the intellect: the subtilty of thought, the shortness of man's vision in space, and the shortness of his experience in time. Suppose that man could not give his ideas a permanent form in words, he could make very little progress in knowledge, because he could receive little from others, and his own ideas would be vague to him. But by coining his ideas into words they assume a definite and permanent form, and will be serviceable ever after.

Suppose all the people except children below twelve years of age were to pass away. Suppose all knowledge of past times were to pass away also. How

much of intellectual power could those children obtain in a life-time? It would take ages for the human race again to attain the intellectual greatness of to-day.

During the Dark Ages the human race was in such a condition. The reason they rose so rapidly from this intellectual narrowness and weakness is because the learning of Greece and Rome was opened to them. From this we can see how much our intellectual freedom is dependent upon a knowledge of past time, and how narrow and confined would be our intellects were we dependent upon our experience alone. Suppose we were brought up in a country in which there was not a man who knew any thing of space, except what he had seen. How little of intellectual freedom could come to such a place! This supposition shows us how much our intellectual breadth is dependent upon a knowledge of space.

We can not live through past ages and experience what has taken place, nor can we go to all parts of the earth and learn from observation. But unless these restraints can be thrown off the intellect must remain in chains.

Liberation of the Intellect.—The restraints which the laws of organization impose upon the intellect are overcome by time and exercise. The kind of exercise and the manner of taking it are matters of great importance. The intellect feeds upon truth. In the pursuit of Truth the intellect gives strength and becomes a great force. The intellect strives to obtain truth, and the effort to obtain the truth gives it exercise and strength. After the truth has been obtained it becomes an object of utility. In order that the greatest

good may be obtained from the pursuit of truth, the intellect must gain it by self-exertion; for it is self-exertion that developes strength. In order that truth may be useful when it is gained the person must fully understand the relation of each truth to other truths. And it is only when one has gathered each truth himself, that he can know its relation to all other truth which he possesses. The intellect is an active aggressive force and not a passive one. And when knowledge has been gained in any other way than by aggressive self-exertion it remains in the memory as so much lumber of which the intellect can not dispose to any practical purpose.

The complaint is often brought against colleges and high schools, that what they teach is not practical; that they unfit rather than prepare for actual life. The fault is not so much in *what* they teach; for truth is truth and is just as potent for good, whether gained in a college or in practical life, but the fault lies in *how* they teach. The teachers proceed on the theory that the text-books must be committed to memory; that the uneducated mind is a vacuum that must be filled. So the student's mind is filled with a vast array of facts which are as dead as the stuffed animals in a museum and are useful only for show. The self-made man who gets his education by self-exertion obtains the same truth, but he gets it from nature, knows where he gets it, and so each fact does not stand alone, but is related to others, and thus he can make use of it in practical life. Every truth is a living thing that can be made to do service.

The teacher is not a giver, but a leader. He does not capture and dress the truth and present it to the

student, but he leads the student to the place where truth may be found and aids him in capturing it alive for himself.

The teacher must resist the temptation to impart knowledge when the student makes no exertion to gain it; but must do all in his power to create a love for knowledge, and when that is accomplished aid him in satisfying his desire by making it as easy as possible.

The progress of knowledge is from the known to the unknown. Every truth depends upon some other truth and leads to another beyond itself. Our concepts depend upon percepts, and our general concept upon the particular ones, and conclusions arrived at by reflection upon other facts. It therefore follows that there are certain truths that must be learned first. When these fundamental truths are learned, the pupil can advance to other and higher fields, and if time and ability will admit he can explore the whole field of known truth and even add some thing to the world's store.

Studies that are Fundamental.—As the common and high school can give pupils only a start in education and can by no means complete it, the studies that are here pursued should be such as are fundamental; such as will lay the foundation for the education to which additions will be made through the entire lifetime. The school that inculcates the idea that education is completed when its course of study has been passed through, is a failure. No teacher will knowingly inculcate such an idea, yet the methods leave such an impression. Education is growth, and when growth ceases education dies.

Language.—We can think without language; yet language is a great aid to correct thinking. There are so many ideas that differ from each other, only in degree, as *pleasure, happiness, joy,* and if these ideas are not tied up, as it were, in words, there would be little accurate thinking. So coining the bullion of our thought into the currency of language gives a fixedness and definiteness to thought that is of great service in securing truth. We may know a thing, and not be able for a lack of words to make our meaning clear, but we do not know a thing well until we can tell it in words. A knowledge of the truth is the greatest force of which we know any thing; yet this force amounts to little unless we are able to transmit it to others. And unless man has the power to transmit his thoughts, his greatest power is restrained and he is weak.

But when a man has truth which is of great power for good and is able to transmit it to others, he becomes free and strong.

Morse's thoughts might have been expressed and sent to England, and there they would have given the power to invent the telegraph. An English statesman may know of a circumstance which if not counteracted may lead to war. By transmitting his thought to another, the proper thing may be done and bloodshed and suffering avoided. Language increases man's liberty and power. It makes him immortal. Though he is dead his thoughts live in literature and continue to exert their power. It puts us in communication with the wisest and best of all ages. It makes Paul and Socrates and Shakespere inmates of every home, and the friends of the most humble. Reading unlocks

the store-house of knowledge and enables each one to profit by the experiences of those who have lived ages ago.

The mastery of the mother-tongue should be secured in every school. Reading, Grammar and Composition are among the fundamental studies to which special attention should be paid.

Geography.—Man is to a certain extent confined in space, he can not examine for himself a very large part of the earth. So his range of knowledge is limited. His experiences occur in a small area. By a knowledge of Geography he extends his experiences to all parts of the earth, his mind is freed from the limits of space, and he is able to understand the true state of the earth and its nations quite as well as if he had seen all. Through Geography we become acquainted with all the nations of the earth, their industries, their character and advancement in learning. This so widens our range of knowledge that we are able to form a good conception of the world. We become competent judges of matters that concern nations and the world. Through living in one place we become citizens of the whole world.

Every part of the globe yields up her treasures to us. We get truth and beauty from every nook and corner. In our imagination we can, through geographical knowledge, enjoy the beauty of the tropics, the grandeur of the Alps, the art of Rome. If we have a correct knowledge of the geography of Scotland, we live there when we read Scott. London would be no more real to us were we to go there, than it is in the pages of Dickens or Thackeray.

It is impossible to have a broad and liberal educa-

tion without a good knowledge of geography. Suppose a person to have extensive knowledge of the history and achievements of the ancient Greeks, with the geography left out. His knowledge would be so narrow and imperfect as to be worthless. Geography is the foundation of a broad and liberal knowledge of the truth, and let it be laid broad and deep in the mind of every child.

History.—A knowledge of history frees man from the limits of time. Were it not for historical truth man could know only that which took place in his own life-time, and under his own observation. Time is a fetter which holds the mind in its grasp. A knowledge of history breaks this fetter and permits the mind to be a witness of the struggle of the human race for more light. In history we live through the ages of the past. We are present with Alexander, we listen to Socrates, we are eye-witnesses almost of all the great events. We live in every epoch, and are acquainted with the great and good. We are at the cradle of truth, we note her growth, after six thousand years we see her radiant in beauty and mighty in power. In history our short lives are lengthened to an eternity. We go back to the time when written history was born and life from that time to this. Not satisfied with this we read the book of stone, and begin our lives an infinity of years before and are present through the ages that the earth was void and without form; we see the waters of the seas come together and the dry land appear; we see continents go down into the deep and mountains arise out of the midst of the sea; we see the earth swarm with life and the globe grow larger from the bodies of the dead. In

the pages of history we may live a thousand years in a single hour.

By the study of the history of our own country we may know its life better than we could had we lived as long as it has lived. We can know the Civil War better than Gen. Grant, who commanded in its greatest actions. He sees the War through his own eyes. We see it not only through his, but through those of a hundred other observers. A true history of a great event can not be written until all the actions in it have passed away. Words can not express how great is the liberty that is given to the mind by the study of history. What possibilities does it lay before us! To what depths will it not permit us to go! To what height to ascend. History and Geography give the intellect wings that defy time and space.

Arithmetic.—The study of Arithmetic cultivates the reasoning faculties. It also gives man a kind of liberty which nothing else can give. Each man can produce but one thing, yet he needs a thousand. Some of those things have to be brought from across the sea. A system of exchange is therefore absolutely necessary to his well-being. Arithmetic makes it possible to carry an exchange of commodities. Were the world's knowledge of Arithmetic to be blotted out all the wheels of commerce would stand still. Arithmetic is also the beginning of mathematical truth, and is important because it leads to so much that is necessary for man to know in order to become the master of nature's forces.

Physiology and Hygiene.—Man is exposed to many influences which will destroy his health, and thus cripple all his powers and destroy his happiness. A

knowledge of Human Physiology and Hygiene will enable him to avoid the causes of disease, and keep himself in the best condition to use all his powers and to enjoy life. Without health man is a slave to weakness. With health he is free to use all his strength.

Natural Sciences.—Besides the knowledge of Physiology, the child should be given a knowledge of the rudiments of other natural sciences. These teach him the laws of nature. Understanding the laws of nature he can apply them to his own convenience. Then he becomes master of the forces of nature. He makes the waters, the winds, electricity, the forces of chemistry do his bidding. The study of science has developed all the arts of civilization. . Take away from the people to-day their knowledge of science and they would be left as helpless as savages. They would have to leave the industries of to-day and till the soil with a sharp stick and wear the skins of animals. Nature is master of the savage; civilized man is the master of nature.

The man who is ignorant of natural science is superstitious. He sees so many things which excite his wonder, and not knowing the causes he attributes every thing to the caprice of supernatural beings. He is in terror at the ordinary manifestations of natural forces, as lightning, the storm, and disease. He dare not think for himself, nor depart from his belief in these gods, and demons, and ghosts, lest they visit their wrath upon him. Superstition is the paralysis of reason. A knowledge of natural science reveals to man that all things take place in accordance to invariable law. Behind every effect he sees a cause. Timid reason at last dethrones superstition and becomes the

liberator of man. When man is governed by Reason made free by the Truth, he is no longer a coward who trembles in dread of the powers of the air; but he is a brave and free man, whose reliance is upon Truth, and whose trust is in Virtue.

Thus we see how every form of knowledge tends to make man free. That his highest happiness and usefulness is realized when he is made free by the power of the truth.

Summary.—In the realization of truth and intellectual freedom, the principle are these: 1. The intellect must gain knowledge or truth. 2. Truth must be gained by self-exertion. 3. Truth is gained for two purposes: *a*, To strengthen the intellectual faculties and make their activity free, and *b*, To be used in the practical affairs of life, in getting a livelihood and in the regulation of conduct. 4. Language, Geography, History, Arithmetic, and the rudiments of natural science should be mastered first; for they are at the foundation of all other knowledge and give that intellectual freedom that is necessary to a successful life.

When to Study the Rudiments.—The Intellect does not reach maturity at once, but its powers develop gradually and in a certain order. Therefore there is a definite order in which different studies should be begun. The food of the Intellect should be adapted to its conditions.

The Perceptive power of the Intellect is the first to develop, and the Perceptive faculties are the first to become active. They take cognizance of external objects, their properties and relations, and receive impressions through the senses. This gives rise to the

Objective Period.—During the Objective Period the child is able to exercise Perception only. It is interested in things which are present to the senses. It wants to know what they are, what are their properties, what they can do, where they are, who made them and when they were made. It wants to know all about these things that can be known through the senses. It some times wants to know causes, but not often. Its questions are what? when? how? and where? Not often why? During this period the child is very active. It can not keep its body still nor can it keep its mind long on one subject. It must have continual change in body and mind. This is so because of the vigor of its vital energies.

Time of Objective Period.—This period continues usually until the child is eight years old. This varies, as some mature earlier and others later.

Studies of the Objective Period.—The studies to be taught at this period are such as pertain to objects. Those truths that are received by the senses. The child can learn to read, to write, to count, add, multiply, subtract and divide, and local geography. It can become acquainted with all the objects about it. This period should be devoted to the study of things.

This activity of the child should not be repressed, but be encouraged and directed. Its hands educated, its mind led to objects of which some thing may be learned. In the school-room it must be kept doing some thing. Printing, writing, drawing, assorting papers according to color or shape into packages of certain numbers, thus counting them by fives or tens, etc. Let them do any thing that will employ the hands and require such mental effort as they can exercise.

Subjective Period.—The subjective period is that period of intellectual development in which the mind can form concepts and when the reflective faculties are active. During the objective period the external world engaged that attention of the child. During the subjective period a new world is the scene of the mind's activity. This new world is peopled with objects which derived their existence from the facts learned in the external world. The imagination creates an ideal world the beauty and glory of which surpasses those of the external world. The intellect is now able to form perfect concepts, it takes comprehensive views, delights in theories, and creates them to explain existing phenomena. It is able to comprehend general principles. It compares, discriminates, classifies and draws conclusions. It is now capable of complete activity and can grapple with the greatest problems.

A child reading "The Pilgrim's Progress" finds it an interesting story which relates the adventures of certain men; the man who has reached the subjective period learns the deeper lesson. To him Christian, Worldly Wiseman and Doubting Castle are concepts that contain a vast amount of truth, and their adventures are to him statements of truth which are invisible to him who is incapable of subjective thought.

Time of the Subjective Period.—This period marks the mind's maturity and is perfected usually at about the twentieth year. Though this depends largely upon the constitution and education. In the uneducated it is never perfected.

Studies of the Subjective Period.—All the studies in which the mind can make progress can now be pursued.

The Transitional Period.—From the time when the mind seeks objective knowledge to the time when it is capable of subjective thought is the Transitional period. This period begins when the child begins to have abstract ideas and to ask the question, "why?" It begins slowly to form general concepts and the imagination begins to manifest itself. Now the boy or girl begins to be sentimental and romantic. There is a strange mixture of the objective and subjective. Views of life begin to take shape, but they are a strange combination of the practical and the ideal, romantic and imperfect.

Studies for the Transitional Period.—The efforts of the teachers should be directed toward developing the mind to think subjectively. When the child enters this period his principal studies should be objective, but occasionally abstract ideas, reasoning, classification and general principle should be introduced. The reading books should now contain lessons on honesty, virtue, kindness; for the child is now able to understand these abstractions. Local geography has been the study up to this time; now they can form a conception of places not present to the senses and they can study not only the maps, but also the habits of the people, the climate, and animals, and vegetation of foreign countries. At the age of thirteen they can take up the study of the theory of the earth, the cause of day and night, and the seasons, the tides, the winds, earthquakes. Up to the age of thirteen they have been studying language. They can speak and write correctly, and know the parts of speech, and now they can begin the subject of grammar. Here they learn to form general concepts. They have to deal with principles and to use

both analysis and synthesis. At ten they can begin fractions and advance rapidly in arithmetic. At thirteen they should begin history; beginning with biography and gradually working into systematic history. At fifteen they can begin the sciences and the higher mathematics.

Demand and Supply.—The intellectual faculties develop in a certain order and demand certain kinds of knowledge. To force upon them knowledge for which they are not prepared is an injury to them. There must first be an appetite for knowledge, before it should be supplied. The mind should first be formed and then furnished with the kind of truth for which it craves. To force any kind of knowledge upon the mind for which it is not prepared creates a dislike for that study. Every teacher knows what a hatred pupils have for Grammar who begun the study too early.

That the mind is prepared for a study, is indicated by interest in that study. The object of the teacher should be to create this interest, and this can be done by beginning with what the child already understands, and leading it up to what it does not understand. Begin with the objective, and proceed gradually to the subjective. If you wish to teach the child that light is composed of seven colors, take a prism and show the colors.

CHAPTER XVI.

CONDUCT.

In Part I under the cultivation of the feelings, much has been said of what constitutes right conduct, and how to secure it. In Chapter XV has been discussed one part of the work of the school, the liberation of the intellect, or scholarship; in this chapter will be discussed the second part of the work of the school; the realization of right conduct in the school. The principles here set forth lie at the basis of school government.

Conformity.—As the school is a body of individuals, there must be conformity to the right, so that all may co-operate and all be benefited. If there be no conformity to the right all will be injured, and the purpose of the school can not be realized. It must be remembered that this conformity is not arbitrary, and that it is not for the pupil alone; but that it is submission to the *right*, and that it is obligatory upon the teacher as well as upon the pupil. School government does not mean submission on the part of the pupil to the authority of the teacher; it means the conformity of both pupil and teacher to the *right*. Let the teacher then remember that he may by force control the pupils, but by that control he stunts their mental and moral growth. But by securing the self-conformity to the right he puts new life into them and causes them

to develop into strong men and women. A well governed school is one in which teacher and pupils do the right from choice. And it must be the teacher's greatest desire to secure this self-conformity.

The first and most important requirement to secure right conduct and make the school efficient is

Order.—Order is conformity to a method of procedure. It contains two elements, time and place. The work of the school must take place at a definite time, and a certain time. Conformity to the requirement of time secures *Punctuality.* Conformity to the requirements of place secures *Regularity.* No school can be successful when the attendance of the pupils is irregular, nor can it be successful when they do not do their work punctually. If a few lessons are neglected the pupil falls back and is lost and bewildered in the advanced lessons. Work may be made up, but even then the pupil has lost much and the class has been greatly injured. The teacher should move the class along together, not permit one to lag behind; for if this is permitted the whole class will soon be demoralized. No pains should be spared to secure this concentrated forward movement of the class. If individual aid will help the slow ones along give it, if possible. If some can not go as fast as others, if there is no other way, it is best to go more slowly than the brightest ones might go.

The class should sit in the same part of the room, and all the members recite at the same time and place. When one pupil recites every member of the class should give the recitation his attention. If the recitation is incorrect according to his view, or if more can be said on the topic, each member should feel it his

duty to make the correction or to give additional remarks. If he does not understand the point in question, he should be free to ask for information. The teacher must secure this free discussion of all questions. He must listen respectfully to all opinions, however erroneous. Must answer all questions, however simple, and never show by word or look that he feels contempt at such ignorance or stupidity. Nothing is more destructive to true education than this way of standing pupils on end and pumping and squeezing them to find what they know about a lesson; and when their knowledge is unsatisfactory making them feel your superiority and their own littleness. The class-room should be a place where inspiration is kindled, where strength is gained, and where hope and ambition are quickened. Let the recitation-room be a place where the pupils is to find out what he does not know, and let it be no disgrace not to know a thing, but let it be an opportunity to gain more power. So many teachers make the class-room a place where they seek to entrap the pupil into an error and then proceed to punish him for it by taking off a certain per cent. The right way is to find if the pupil is in error, and if he is to rejoice over it, because it gives an opportunity to enlighten him. This grinding method discourages the pupil and deadens all his enthusiasm. It creates a wrong spirit in the class. Each pupil waits for his time to be ground, and when the teacher has finished him, he feels much elated if he has been able to pass safely through the ordeal; and if not he feels humiliated and discouraged; and in both instances he feels that he has had his turn and is through for this time. If he pays any further attention it is to see how the others fare in the grinding process.

The normal method gives inspiration, awakens love for knowledge, quickens enthusiasm for excellence, and secures the pupil's attention for the whole recitation.

Each pupil should recite *all* the lessons. Of course each one can not recite it all to the teacher; but if he pay attention and allows nothing to pass which does not meet his approval or which he does not understand, it amounts to the same as reciting it all.

The teacher can not neglect order in the least without injury to the school. Attendance, study, recitation and movements about the room must all take place systematically—regularly, punctually, and, as far as possible, invariably.

How to Secure Order.—Order is a matter of very great importance and yet the principles which underlie it are few and simple. Comply with these simple requirements and order is secured. The first of these is GRADATION. Every school should have a course of study which every pupil should be required to take. Good work can not be done in the common schools if each pupil can take what studies he pleases. In many of the country schools parents say their children shall not study Geography and Grammar. The teacher is powerless to make them do otherwise. Some pupils have more than they can do, others have not enough, and so make mischief. When the course of study is decided upon, the work should be carefully laid out, that the studies may come at the right time, that the right ones may be pursued at the same time, and that the pupil may have just work enough.

The second requirement to secure order is a daily PROGRAM of study and recitation. Every one will ad-

mit the importance of a program of recitation, but beginners do not always see the importance of a program of study. Each grade should have a certain time for all its members to study a certain lesson. As they are all seated together in a certain part of the room, the teacher is then able to see whether a proper amount of time is given to each study. He can also tell whether each pupil is doing his duty. And if he is not, by a look or a kind word can remind him of his duty. In this way the whole grade can be as easily managed as can one individual when there is no program of study. There will be no occasion for a dispute between pupil and teacher as to what lesson he would best study next.

This program of study and recitation should be placed where the pupils can see it, and at a signal all grades change books for the next study. In Part III the reader will find Programs and Courses of Study for several kinds of schools.

Duty of the Teacher in Order.—The teacher is to form the system of procedure, and by his own example of self-conformity and by his kindly firmness, enforce obedience to the requirements of order.

As the end of order is not simply for the benefit of the pupil for the time being, but is to benefit him through life by making him habitually systematic, the teacher must secure self-conformity to order on the part of the pupil. This he can do by awakening the right motives and adhering strictly to the rules which have been adopted. Let it be understood that adherence to the established rules of order is as invariable as any thing can be in school, and soon all will conform voluntarily.

Silence.—Silence is the second requirement of the school. Study consists in setting the intellectual faculties to work upon the facts which have been gathered by the senses and by reflection. It is a condition of study that the senses and the attention be withdrawn from outward things and that the attention be concentrated upon the things within. The sight is easily controlled by directing it to the book or slate, but the ear is ever open and it is only when the mental faculties are intensely active upon some problem that sounds make no impression on the mind. Therefore, that the purpose of the school be realized, silence must prevail. Absolute silence is not possible nor is it necessary. It takes but a short time for the child to get used to the ordinary noise of the school-room. The law of silence requires only that there be no unusual noises. Recitations, movements about the room—if these take place with some degree of sameness—may go on without disturbing those who study. It is the unusual noises, such as loud recitation, heavy walking, banging slates, falling books, and loud talking of the teacher, that must be prohibited.

The law of silence forbids communication between pupils in school hours. Whispering and writing notes must be absolutly prohibited. Inexperienced teachers often do not realize this. They think whispering can not be prohibited, but it can be controlled by the teacher. Let no young teacher make this mistake. If your school has been allowed to communicate make it your first duty to stop it, by persistence and firmness you can succeed, whispering is the source of all evils in the school, you must destroy it, or it will give you trouble continually and most

likely destroy your school. The only safe rule is prohibition.

Politeness.—Politeness is the third requirement of the school. Politeness is deportment in accordance with the rights of others. It depends, first, upon a true sense of the rights of others and, second, upon a knowledge of the forms for expressing that sense. The correct sense of the rights of others is a matter of feeling more than of knowledge. It consists in the feeling of good-will toward others. When the feelings of kindness, justice, reverence and faith are exercised toward others, the foundation of Politeness is laid. The forms for expressing these feelings is determined by custom, and they differ as the relation between the persons differ. What is polite in one country is not in another, what is polite between brother and sister is not polite between strangers.

The object of politeness is to give freedom of intercourse between persons. By politeness we adapt ourselves to others and secure the harmony of two natures: confidence is established, and a free exchange of ideas and affection takes place. When we do not conduct ourselves in the presence of others in accordance with their rights, they become antagonistic, the harmony of the two natures is destroyed, and the free exchange of ideas and esteem does not take place. The co-operation of these persons to secure a certain end becomes impossible. Politeness is necessary between teacher and pupil, and pupil and pupil, that all may work together for mutual good.

The law of politeness requires on the part of the teacher toward the pupil, that he feel that the pupil is worthy of respect, and that he will do what he ought to

do, if he has a fair opportunity. To be a good teacher one requires a broad mantle of charity that will cover a multitude of weaknesses, and a heart so full of love and faith that he can retain confidence even after many failures. By the expression of regard and confidence the teacher places the pupil in a situation, to willingly exercise self-restraint and seek to do what is worthy of respect and confidence. By showing a want of faith he lowers the pupil's self-respect and takes away the incentive to diligence and good conduct.

Politeness forbids on the part of the teacher the unnecessary assertion of superiority and authority. He must at all times show himself the friend of the pupil and not emphasize the fact that he is his master. Authority should only be shown in cases where it is absolutely necessary, and then it should be done without display and should leave the impression that it is done in kindness and justice. Anger, harsh words, impatience with the pupil, are not in accordance with politeness, and are therefore very dangerous. It must be an extraordinary case where they can do good or are justifiable.

Politeness requires on the part of the pupil toward the teacher, the expression of confidence and respect. The fruits of these feelings are esteem and willing obedience. It forbids fear and bashfulness. Yet the teacher should remember that if there be a lack of confidence and respect on the part of the pupil, it is the fault of the teacher and he must make an effort to win them from the pupil. This he can accomplish by being truly polite to the pupil.

From pupil to pupil politeness requires the recognition of equal rights and willingness to do to others

what he would have done to himself. The teacher must avoid granting privileges to certain pupils or to certain grades that show partiality which are unjust. Giving marks of merits, or granting prizes, creates envy between pupils, destroys the right feeling which underlies politeness and so creates discord.

Duty of the Teacher in Politeness.—The teacher should form a standard of politeness. By example and by precept he should lead the pupils to self-conformity to the rights of others. He should make politeness one of the ends of the school; for few things will contribute more to the pupils success in life, than will habitual politeness.

Study.—The fourth requirement of the school is Study. Order, Silence and Politeness are necessary that Study may have every circumstance in it favor. The highest and best motive to study is the desire for knowledge and character. Other motives may be held forth to secure study, but they should be subordinate and should be employed to awaken these. To create a desire for knowledge, the mind must be brought in contact with Truth, and made to realize its attractiveness and power. Let the child once begin to learn and it will crave for more. To create a desire for character, the student must be brought to see its desirableness and worth. The desire to be great and good is very strong in children; and let them once experience the joys of doing right, and they will strive for it. Truth is attractive and virtue is satisfying; and if children once get a realizing sense of them, it is a pleasure to strive hard to secure them.

Duty of the Teacher in Study.—It is the teacher's duty to make all conditions favorable to study; to in-

spire love for it, and to give such aid as is essential to its most efficient progress. He should cultivate skill in leading pupils to love knowledge and virtue; he should gain power to advance them in their acquisition; he should be, in truth, the pupil's guide, philosopher and friend.

METHODS.

CHAPTER XVII.

PRINCIPLES.

Pestalozzi reduced the practice of teaching to nine Principles, and claimed that all methods of teaching must accord with these principles, and that the degree of a teacher's success depends upon his faithfulness to them. No two teachers can teach alike; each has his peculiar way of imparting instructions and arousing interest in study. It is not the intention in this part of the work to give methods which are to be imitated, it is rather the intention to lay down certain principles, and to illustrate their application in practice. These nine principles of Pestalozzi, I believe, should form the teacher's touch-stone with which he should test every practice. He can not be in the highest degree successful and violate any of them.

1. *Activity is a law of childhood: accustom the child to* DO—*educate the hand.* The child is full of vitality. The great demand for exercise to work off this surplus energy and to develop the growing tissue, makes it impossible for the child to remain long in a state of physical quiet. The reflective faculties are not yet active, but the senses and the perceptive faculties are very active, therefore, the child is not able to hold its mind long on one subject, but the perceptives in their eagerness to gather facts flit from one

thing to another and make it impossible for the child to make quiet, concentrated, mental effort.

This restlessness and activity is natural and should not be repressed, but should be directed. To command a child to sit still and study is as foolish as to command a stream of water to stand still. We must take advantage of the laws of nature by making the running water turn a wheel. So must we make use of this activity in the child, to better prepare it for life. The child must be given some thing to do that will give agreeable activity to hand and brain. The Kindergarten is founded upon this principle.

The child should have a slate and pencil, and should be required to print, to write, to draw, to do any thing that requires attention, design and work of the hand. It should have cards with letters and words upon them that it may build words and sentences. It should have bundles of stick or straws and elastic bands to hold them together. These it can assort into tens, the tens into hundreds, and the hundreds into thousands. It can construct figures such as squares, triangles, etc., of these sticks and then copy them on the slate.

The child is not able to *work* either mentally or physically, all its work in the school-room should be *play*. The wide-awake teacher can devise a hundred useful exercises for the children and thus make their early school-life both pleasant and productive of good. Real study should not be required before the child is ten years old and then it should not be hard.

2. *Cultivate the faculties in their natural order; first form the mind then furnish it.* The reader is referred to Chapter XIII, on the powers of the intellect,

and also to page 225 on the Periods of Intellectual Development.

The perceptives are the first to become active, and their first power is that of Perception. This gives rise to the Objective Period. All that the child can do during this time is to get a knowledge of the objects which are present to the senses. Conception, Abstraction and Generalization are powers which become active later in the child's life. There is a vast amount of knowledge which is purely objective and no time should be wasted in futile attempts to teach children things which they can not fully comprehend.

By forming the mind is meant so perfecting one period of intellectual development, that it gradually merges into the next. When the child manifests interest in a subject its mind is formed for that subject. It is the teacher's duty to awaken this interest. When interest is awakened, he must give the knowledge for which the mind calls. In the Objective Period the children can understand a story of an honest and a dishonest boy; for these are qualities of an object. But to discourse to it about honesty and dishonesty in the abstract is to furnish the mind before it is formed. During the Transitional Period the child begins to manifest interest in abstract subjects, and the power of Conception begins to develop. Then it is the teacher's duty to furnish the kind of knowledge which is interesting.

In beginning a new study the teacher must awaken an interest before advancing in the study, otherwise the pupils will get a poor start and will never like the study. This interest can be awakened by oral lessons in which the most interesting facts are brought out.

In the study of history you can tell interesting stories about the early discoverers. In Physiology you can give interesting things about the human body. Those who do not like a study at first seldom get to like it afterward.

3. *Begin with the senses, and never tell a child what he can discover for himself.* Whatever appeals to the senses of a child, it can study. If we want it to get an idea of a lake let it see or remember a pond, then explain that if the pond extended from one place to another (showing the points), it would be called a lake; if yonder hills extended to the clouds, they would be called mountains. The first thing to teach a child is all that it can know about what it can see, feel, hear, touch and taste.

To take an object and tell the child all about it is disregarding the second part of this principle. Give the object to the child and let him tell you all that he can about it, and if he does not tell you all, lead him to discover what you see and which he does not.

If a pupil can not solve a problem, do not solve it yourself and explain to him how you did it; but let him do the work, and when he makes a mistake lead him to see his error. By suggestions that set him to thinking or that awaken his memory you help him out of the difficulty and do him no harm, for he has been active, not passive, and he gains strength. Let the teacher always remember that he is to help the student when he needs it, but that he is never to do his work for him.

Illustration: If $\frac{3}{4}$ of an acre cost \$75, what will two acres cost? *Pupil:* If $\frac{3}{4}$ of an acre cost \$75, $\frac{1}{4}$ of an acre will cost $\frac{1}{4}$ of \$75. *Teacher:* Oh, no, not $\frac{1}{4}$ of

$75. The pupil studies over it awhile and can see it in no other way. Then give him a problem like this: If 3 acres cost $150 what will 2 acres cost? The pupil solves this readily. He tries the first one again, but still says $\frac{1}{4}$ will cost $\frac{1}{4}$ of $75. *Teacher: What* cost $75? *Pupil:* $\frac{3}{4}$ of an acre. *Teacher:* How *many* fourths? *Pupil: Three* fourths. *Teacher:* Well, if *three* fourths cost $75 what will *one* fourth cost? *Pupil:* O, I see! $\frac{1}{4}$ will cost one *third* of $75. Now, if the teacher had told him this, it would have made but a feeble impression on the pupil's mind; and, it may be, he would not have understood it at all. One of the objects of study is to gain the power of discovering truth by self-exertion, and when the teacher tells what the pupil can discover for himself he defeats the purpose of Study.

4. *Reduce the subject to its elements: one difficulty at a time is enough for a child.* Every subject is composed of many elements, and it is the teacher's duty to separate it into its elements and to present them one at a time in their natural order to the child. If we teach by the synthetic method we are more likely to follow this principle, than if we use the analytic method. To say to the children, we will now study Addition, and proceed to show them how to add 1897 and 989, is disregarding the principle. In Addition we have three elements: combination of numbers, writing numbers to be added, and writing sums. Let the child learn to combine any of the digits, and to do it accurately and rapidly. Then let him learn how to write large numbers so that they will be most easily added. Then teach him to add one column at a time and how to write the sum, explaining why the tens of

the sum of the units are added to the column of tens. This principle must be carried out in teaching every subject.

5. *Proceed step by step—be thorough.* This principle depends upon the preceding one. After the subject has been separated into its elements then begin with the first step, master that, and then take up the next and so on till the subject is mastered. Thoroughness consists in *mastering* each step in its proper order.

6. *Let every lesson have a point.* To make practice always accord with principle the teacher must make daily preparation for each class. He must keep in mind what point they have and what one they must get next. The teacher should, like the joiner, know just what piece must be fitted on next to complete the work. The teacher who says "take the next lesson" is like the joiner who attaches the first piece upon which he lays his hand, not knowing whether it is the right one. Every lesson should either contain a new truth, or should be a review of one that has been previously learned. If the point to-day is the Personal pronoun, see to it that every pupil has a clear idea of it, and how it differs from other pronouns. If a reading lesson, ask yourself, what is the point of this lesson. It ought to contain some thing which yesterday's lesson did not.

7. *Develop the idea, then give the term.* Words are only signs of ideas. The idea is the important thing, the word is only the name of it. According to this principle ideas are to be gained first, principles are to be learned before rules. Definitions are useful to give definiteness to ideas, but ideas are not to be learned from definitions. To assign a new lesson telling the class to learn the definitions is contrary to this

principle. The ideas must be developed first and the definition given as a description of the idea.

For illustration let us take a class beginning Fractions. We take an apple. We explain that it is an undivided unit, a whole apple. We have the children to represent in figures any number of apples. We next divide the apple into two equal parts. We explain that each of these parts is not a whole apple, an undivided unit. The children give the name of a part, one half. Perhaps they know how to represent it in numbers. Next they must represent both pieces. We show them that the two pieces are as much as one apple but it is a divided apple. So $\frac{2}{2}$ and 1 are equal in value, but one is a unit the other is a divided unit. We now draw their attention to the fact that the 1 above the line means one of the pieces and the 2 below the line means, that a unit has been divided into two equal parts. Divide the apple into four equal parts, and illustrate the same principles.

They now have the idea of a fraction, let them define the idea. Perhaps they will say, "A fraction is one or more parts of a unit." Show the error by taking an apple, and say: "I will divide this apple and keep one half, and give you the other half." Then give one of them a very small piece and keep the large part.

They will see the error, and correct the definition by saying a fraction is one or more of the equal parts of a unit. We next have them tell us again what the upper and lower numbers indicate. Then we say the upper number is the "numberer," it numbers the parts. The lower one is the "namer," it names the parts. Then we explain that numerator and denominator

mean numberer and namer, and are prettier words, so we will use them instead. We next require them to define these terms.

When we teach the six principles of fractions, we try experiments, as multiplying both terms by the same number, multiplying the numerator or denominator separately, etc. We note the result of our experiment. The children write down the experiment and its results. They learn by this that there are two methods for multiplying and for dividing fractions; and that there are two ways in which the form of the fraction can be changed and the value remain unchanged. First learn how to work the examples and then each student make a rule by writing down how he works the example.

Whenever a new subject is taken up give preliminary drills in which you develop the ideas, and when they study their text-books the definitions are easily understood and the subject easily mastered.

8. *Proceed from the known to the unknown.* It is by its resemblance to the known, that the unknown is comprehended by the mind. The first step in definition is to show the relation of the unknown to the known. For example, mercury is a term which conveys no meaning to the child's mind. So we must go back to the known. It knows what metal is, and we say mercury is a metal. We next distinguish it from other metals by starting its distinctive features. It is in liquid form, at ordinary temperature.

When we find that the child does not comprehend what we are trying to impart, we must compare the object in question to some thing which the child does comprehend, and show the resemblance between the

two; as, for example, the child does not comprehend that air can be any thing. We explain that the air is some thing like water, only it is much lighter and thinner. The fish swim in the water, and birds swim in the air, but we say they fly in the air. Now make a stroke with the hand, and you feel some thing press against your hand very much like making a stroke in the water. Did you ever see how grass and small twigs are bent over by running water? Does it not look like the grass and trees when they are bent over by the wind. The wind is air in motion. With a pop-gun we can show that we can not push the rammer into the gun, until we push the air out. By thus comparing the unknown with the known, the child readily gets a knowledge of it.

9. *Synthesis then analysis; not the order of the subject, but the order of nature.* For the definition of Synthesis and Analysis see page 187. To begin with school-house, pass from that to the grounds and so on to the hills, valleys, waters, studying the part of the world first which can be seen, passing gradually to township, county, state, nation, world, is teaching geography synthetically. It is beginning with the parts and developing the whole. To begin with the globe, its divisions, sub-divisions and passing down to the particulars, is teaching according to the analytical method. It is taking the whole and separating it into its parts.

If in language or grammar we begin with grammar, pass to its divisions, learn of what each treats, take up parts of speech, and the properties of each, etc., we teach by Analysis. If we begin with words, learn that they are of different kinds, names, action words, quality

words, etc., then learn their properties, and passing gradually up to subject grammar, we teach by Synthesis. It is evident that the Synthetic method is the method of nature. It is the way a child naturally obtains knowledge. The Analytic method is the logical order of the subject, and is adapted to minds which already have a fair knowledge of the subject.

CHAPTER XVIII.

HOW TO TEACH LANGUAGE.

Language is one of the fundamental studies. All mental growth takes root in it. Without it there is no sure advancement. Without language thought is invisible and destitute of power; with language it becomes the essence of power. The force of thought embodied in language is superior to the forces of nature. It lives through all time and shapes the destinies of men and nations. Not much of the best thought that was ever born in human brain has been lost. It has been locked up in language, and has been a constantly operating force that has raised man from barbarism to civilization.

By language we give definiteness to our own ideas, and through it we get ideas that greater minds than ours have created. From no other source can we obtain so much power and liberty. A knowledge of language is the key that unlocks the great store-house of thought. Give a man power to read and to write and he can single-handed and alone rise to eminence and to power. The study of language then is the most important of all the studies. By the study of Language is here meant all the studies which enables us to grasp the thought expressed in the spoken and written language of others, and all the studies which enables us to express orally and in writing our own thought. It

includes Reading, Talking, Writing, Spelling, Composition, Grammar, Rhetoric and Literature.

Reading.—Under the head of Reading will be discussed the processes for learning to understand and to pronounce written language. Reading will be considered mostly in its utilitarian aspect. For it can hardly be considered the province of the common school to teach Reading as a fine art. All that can be expected of it is to teach children how to understand fully what they are reading, and to pronounce it so that others may easily get the meaning of the author.

The Alphabet Method.—The Alphabet method is to begin by learning the letters. Then combine them into syllables as, ab, eb, ba, be, etc. Then combine them into syllables of three letters, and so on until the child can pronounce words of several syllables. The child is next given a First Reader. Here it is taught to pronounce the words. At first it has to spell nearly every word, but learns slowly to know some of the words without first spelling them.

There are serious objections to this method. *It is not the natural way.* An infant first learns to know things. The mother sees that the child is interested in the object, and she says *cat*. When this has been repeated several times, the child associates the sound with the object, because it has found them together. So when the mother says *cat*, the child begins to look for the object. After a time it learns to imitate the sound, or begins to talk. The natural order is the idea first, and the word next. Letters represent sounds, not things. From these letters, the child learns words, and they, like the letters are arbitrary, and their connection in the mind with the idea which they repre-

sent is not very apparent. So the child goes on pronouncing words, but getting no thoughts from the process. Children often advance rapidly into the higher readers, but they get no more thought out of their reading, than if they pronounced so much Greek.

We do not think of letters when we are reading. We see the word and by its form we know it, and pronounce it as we learned to pronounce it when we learned the word. When, therefore, the child learns by the alphabet method, it has to unlearn what was so hard to learn. This would be a less weighty objection, if the English language were pronounced as it is written. Some of its words are as arbitrary as are Chinese characters.

Children do not give the right expression. Their main object is to pronounce words, and so they fail in modulation and emphasis. They pronounce one word in the same manner as they do another, and drag and drawl along giving no expression whatever. When however the thought is uppermost in their minds and their object is to express the thought, they can hardly help giving the right expression.

The Word Method.—In the word method we begin with the word, and afterward teach the letters as parts of the word. The first thing to do is to bring before the mind an object. If you can not do that, take some familiar subject like dog. Talk familiarly about it. Get the child to tell you what his dog's name is, what his color is, what he can do, etc. Holding up a picture ask the child what that is. It will answer, a dog. Talking about the picture a while, ask if it would like to see the word dog. Then show the word. Print it on the blackboard and on the

child's slate. Then have it hunt for the word among other words. When this word is thoroughly learned teach the word cat in the same way. You might take next an adjective, black or white. But remember to give the *idea* first. This can be done by asking the child to point out some thing that is black, then give the word and see that it is well impressed on the mind. Now turning to the picture ask of what color the dog is. The child says he is black, then put the two words BLACK DOG under the picture ask what the words say. Ask if what the words say is so. Is it a black dog? The child answers, yes. Then putting the words BLACK CAT under the picture of a white cat ask what they say, and if they tell the truth. This is all to show the child what reading means, that the words tell some thing just as much as spoken words do. You can now teach a verb. Ask the child what a dog can do. It answers that the dog can catch rats. After having taught the word catch, hold up a picture and ask, what is the dog trying to do? The child answers that he is trying to catch the cat. Put the words, WHITE DOG CATCH BLACK CAT, under the picture, ask if that is so. The child says, no; the dog is black and the cat white. Placing the words BLACK DOG CATCH WHITE CAT, ask if that is so. You say to the child that is so, but it is not a good way to say it. "Black dog catch white cat." That is the way the baby talks. Then print on the board—BLACK DOG—CATCH—WHITE CAT, ask what words ought to be where the blanks are. And if the child can not tell you read it, "The black dog can catch the white cat." When it comprehends what words are missing teach them. You can then change the places of the nouns,

and ask if they think that a cat can catch a dog. You can now teach other words like rat, bird, run, play, etc. You may give new words as rapidly as they can learn them

Points to be remembered:

1. Give the idea first.
2. The Spoken word next.
3. Learn the printed word well.
   a. By showing the word and pointing out its peculiarity of form.
   b. By hunting for it among other words.
   c. By printing the word.
   d. By having the child to print it.
4. Do not give words too fast.
5. Repeat in each lesson the words most recently learned.
6. Keep it prominently before the mind that the words say something.
7. Have them to pronounce sentences not words. Read as they speak. Not A—CAT—PLAYS, but, *a cat* PLAYS.

A book containing appropriate pictures and words arranged into sentences, and others scattered over the page for word hunting exercise is all the apparatus that is required. But charts and cards on which are words and pictures are helpful in varying the exercise.

When the children have been learning in this way for a few weeks, they should be taught that words are made up of letters. They have been making the letters while they were printing the words, and now you can teach them to know the letters and their names. Learn a few letters each day until they are all learned.

You can have them copy the letters, and afterward make the letters from memory. You can have a letter hunting exercise. Children like to work at the blackboard, and you can permit them to make the letters as you name them. When they have learned the letters ask them what are the letters in the words cat, dog, etc. When new words are now learned you can require the spelling, orally and in writing.

Advantages of the Word Method:

1. It is the natural way.
2. It is interesting.
3. It makes the thought, and not the word the prominent thing.
4. It leads to correct expression.
5. It makes spelling and pronunciation easy.
6. It gives children something to do with their hands. They print their lesson while at their seats.

First Reader.—After pupils have completed a course of a few months in a word method book, they can take up the First Reader. Some First Readers are so arranged that they do for the beginning book. The First Reader should contain interesting pictures and reading matter, concerning the objects in the pictures. The lessons should be carefully graded, introducing but few new words at each lesson. And these together with those most recently introduced, should be printed at the head of the lesson. After learning the lesson of to-day, the teacher should give instructions on to-morrow's lesson. He should teach them the new words. Remembering always to teach the idea first, and then the word that expresses it. For example,

you see the word *ascend* in the next lesson, you might tell the children, "that once there was a little boy who saw a high ladder standing by the house, he had seen his father climb up to the top, and so he thought he would ascend the ladder too, but when he got a good ways up he looked down and he was so scared that he could not go up or down, so he just hung tight and cried. His big brother saw him, he ascended the ladder and brought the little fellow down." By questioning them you will find they understand it all. Write your story and show them the word *ascend*, and show them that it means to go up. Show them the word in to-morrow's lesson. Have them read the sentence in which it occurs. Have them copy the word. Then write it when you pronounce it. When they read over the new lesson, they will understand every word of it.

Learn the new words thoroughly; what they mean, how they look, how to spell and to write them.

Children should now learn to write with a pencil. Show them how to make a few letters every day, and let them practice these letters at their seats. They will then be able to study their lessons more. Have them read over the lessons and find out what they say, then let them copy the lessons on their slates. In class often have the lesson read from their slates instead of from the book. After a time they can exchange slates and read each other's writing.

Do not neglect proper expression, see that they read naturally, and if they make mistakes, correct them, show them how to read it, and have them try again until they read it correctly.

While you pay much attention to words, their forms,

spelling, etc., do not neglect the spirit for the letter. Give the thought of the lesson the most attention. If the lesson has been a story, let one child tell a part of it in its own words, let another begin where the one left off. If this be too difficult or the lesson is not adapted to this method, ask such questions as they can answer if they understand what they have read.

Second Reader.—The methods of the First Reader should be continued in the Second. But here can be added instruction and practice in the different sounds of letters. Teach first the sounds of *a*, and the diacritical marks which indicate the sounds. In spelling exercises the vowels should be carefully marked and the silent letters crossed out. In this way they will be prepared to use the dictionary. By the time they get into the Third Reader they should be able to make progress without the aid of the teacher, and this they can do if they have a good knowledge of diacritical marks.

Besides requiring the pupils to answer questions about the lesson and write answers, and tell the story of the lesson in their own words, you should have them write the story from memory; exchange papers and criticise each other's work, marking mistakes in spelling, punctuation, capitals and grammar. You should examine the papers yourself, correct their errrors and give them all the encouragement by words of commendation.

If this exercise is too difficult you might write questions on the black-board and require them to give complete answers. When they have obtained skill in this you can have them to weave their answers into a connected discourse.

You should require the pupils to give complete answers to questions. By a complete answer is meant an answer which contains the question. You ask, "When was Washington elected president?" The children will probably say? "Seventeen Eighty Nine." They should say, "Washington was elected president in 1789."

The reason this is of great importance is because incomplete answers cultivate an incorrect and unsatisfactory expression of thought, while complete answers cultivate good language, correct expression and systematic thinking.

Third Reader.—The methods of the Second Reader can be continued in the Third. But more attention should be given to punctuation, diacritical spelling, definitions and the use of the dictionary. Call attention to the new words, to their pronunciation and spelling; but let the pupils get their meaning from the vocabulary in the book or from the dictionary. When you want them to define a word, first read the sentence in which it occurs; that will teach them to learn the meaning of words from the way they are used.

Now is the time to require original composition. Give them a picture and let them write the story suggested by the picture.

You should pay much attention to the reading of poetry. To break up bad habits in those who have been neglected it is only necessary to get them first to understand what is said, and try to read it so that it gives that meaning. The sing-song habit is contracted by pronouncing the words and paying no attention to the thought. Require the pupil to read a stanza and then to tell in his own words what it

says. Let them write out the whole poem in prose, and then show them how much more pleasing it is in poetry.

You should occasionally read something from some other Third Reader or from a children's paper, and require them to reproduce it in their own words. Always insist upon as neat work as they can produce.

You should now encourage them to read books which they can understand, "Robinson Crusoe," that best of children's friends, *St. Nicholas*, *Harper's Young People*, and *Wide Awake*. Get as many of them as you can to take one of those periodicals. Take one or all of them yourself, and lend to those who can not have them at home, and encourage those who have them to exchange and to lend to those who do not have them.

The great object of reading is to gain access to the store-house of knowledge. At this stage of advancement children can use books, and if you fail to have them do so, your work ends just where it should begin to produce the result for which you have been laboring.

Advanced Reading.—In primary reading the chief object is to gain the power to grasp the thought from the printed page. This requires special effort to be made to awaken ideas and to teach the words which represent them. The exercises of reading, spelling, composition, and pronunciation are all for the purpose of securing this object. In advanced reading it is the object to perfect what has been begun, but to gain besides this greater and better power of expression.

Fourth Reader.—The methods of the Third Reader should be continued. But more attention should be given to delivery. And the teacher should stir up an

interest in reading for the sake of the information which may be gained thereby.

Seek for the information in the reading lesson. The teacher should be ready to give additional knowledge upon the subject. Make reading the means for gaining knowledge and not leave the impression the end is gained when the lesson has been pronounced.

Fifth Reader.—The Fifth Reader is an advanced series and the methods for teaching it are the same as those of the Fourth. This can be completed when the pupil is twelve or thirteen years old. There should therefore be a book beyond this. The best book that can be used is "Studies in Literature." Swinton's "English Literature," published by the Harper's is an excellent book for this. If this is studied, the teacher should give much information on the history of Literature.

Reading cannot be successfully taught without good text-books. The New National Series of Readers, published by A. S. Barnes & Co., New York and Chicago, is in every respect a model series.

Spelling.—The natural method of learning to spell is to memorize the form of the word and learn to write the word from memory when its meaning is first learned. Spelling should be made a principal exercise in all the studies, and the habit of spelling new words should be so thoroughly fixed that it will be practiced all through life. The best method, then, is to learn to spell all the words of the text-books as those words are brought before the mind.

Spelling can be easiest learned in youth, for then the mind is more receptive and the memory more retentive. Spelling is a habit, and habits are more easily

formed in youth. Few persons in whom the habit of correct spelling is not formed early ever become good spellers. The teacher does a great wrong to the pupil when he allows him to neglect spelling. In maturer years, when the mind is engaged with ideas, it is exceedingly difficult to learn to spell. Though deficiency in this art is of no great moment it is yet very annoying, for people are so ready to think that one who makes mistakes in spelling must be an ignoramus.

There are two methods of Spelling. One is based upon the sense of hearing, the other upon the sense of sight. The one may be called the Auricular Method; the other, the Ocular Method.

The Auricular Method.—In this Method the word is pronounced, or the sound is given as a whole. This sound is analyzed into its elementary sounds, and the letters representing the elementary sounds are given.

If the English language were a strictly phonetic language, this were the best way to learn to spell. It would then be necessary only to learn correct pronunciation, and a little practice would be sufficient to make one a good speller. But there are about forty-three elementary sounds in the English language, these are represented by only twenty-six letters, and many of these letters are equivalents of other letters. A large number of words contain silent letters and their pronunciation gives no clue at all to their spelling. So the Auricular methods tends rather to make bad instead of good spellers.

The Ocular Method.—This method is based upon the sense of sight and the memory of form. According to this method we must remember the form of the word and the letters, as the features which go to make

up the general form. If spelling is learned by the Auricular method, it will be practiced for a short time, that is, in writing, the person will analyze the sound into its elementary sounds. But before rapid writing takes place it will have to be unlearned. Therefore, the Ocular method should be practiced from the beginning. It will avoid much unnecessary labor and make better spellers. A rapid writer does not stop to analyze a word into its elementary sounds but from habit his hand forms the word, his eye detects its deformity if it is misspelled. Proof-readers never think of words as made up of sounds, but regards them as forms, and in correct spelling, as a misshaped word. Many other reasons might be given to prove that the Ocular method is the natural method, and therefore the right method for the English language.

Primary Spelling.—Pupils are considered primary pupils until they reach the Third Reader.

Learn to spell the new words. When the child learns the first word it should learn to make it, and this should be the case with every new word that it learned afterward. The best thing about this method is that it forms the habit of fixing every new word in the memory, and this habit will be strong all through life. When this habit is not formed, the person will consult the dictionary for the pronunciation and pay no attention to the spelling, and so when he comes to write the word he is apt to spell it incorrectly. Have the child:

1. Pronounce the word correctly.
2. Notice the shape of the word.
3. Name the letters in the word.
4. Copy the word.

5. Write the word from memory.
6. Write a sentence in which the word occurs.
7. Practice this in all the recitations.

Spelling Classes.—Spelling should be learned principally in the different recitations. And often it is enough to make good spellers. Yet sometimes spelling classes are necessary. In primary classes, however, no spelling-book should be used : for children study the column of words and remember them by associating them with the place where they are found. In this way they learn to spell every word in the book, and can do so if they know in which lesson it occurs. Yet in writing a letter they misspell the commonest words.

Use the reader or any one of their text-books. Tell the class to read over a certain lesson or page, and select out all the words that they think they might misspell. Let them copy these words on their slates and study them.

In the spelling-class let the teacher read a sentence and then pronounce such words as he wishes them to spell.

If there are certain words which you wish them to learn, write short sentences on the board and put as many of the words in one sentence as is convenient, and use no word that they would not use in conversation.

In the class erase the work and dictate the sentences, and let them write the whole sentence or the particular words as you think best.

That the class may be more active it is well sometimes to appoint certain members to arrange a list of words which are used in a dry goods store, grocery, or

in any profession or occupation. This method can be made to cover a large field. Names of men, animals, countries, towns, rivers, etc. Have a list placed on the board and all copy them and study them. Of course you will explain that they must think of a word, then consult the dictionary for the correct spelling.

Correcting false orthography is an excellent method. Write sentences on the board misspelling the words which they would most likely misspell. Ask them to criticise the work, the dictionary being authority. Let them copy the work, correcting all errors in spelling and capitals. In class dictate the sentences to them. Spell for them all the words that were at first misspelled, let them mark those which they misspelled. It is very important to correct misspelled words, but how to do this will be given further on.

Spelling in Secondary Classes.—Pupils who have reached the Third Reader should have a spelling exercise each day. The words should be gathered in the same way as with primary pupils.

Oral Spelling.—Spelling is of no use at all except in writing and therefore most of the spelling exercises should be in writing. Yet oral spelling being a quicker and more convenient exercise may be employed where brevity is an object. At the close of the recitation in any branch of study you take a few minutes for spelling the new words. Let these be spelled orally. It is well also to have a spelling contest occasionally, and you can conduct this more satisfactorily orally than in writing.

Written Spelling.—Children learn best by doing. Therefore written spelling has many advantages over oral spelling.

The following method has always produced excellent results:

After the class has had the opportunity to study the lesson, let them sit so that no unfairness can take place; pronounce the words to them, and they write them on their slates. When, perhaps, twenty-five words have been pronounced, ask some pupil to spell all the words as he has them, or each pupil may spell a word in turn. When any one objects to the spelling, let him raise his hand. Ask each one who raises his hand to give his spelling. Decide which is correct, and let each who spelled it incorrectly, write the correct spelling opposite the misspelled word. Proceed in this way until all the words have been examined. Observe carefully the following points:

1. Have the lesson studied.
2. Pronounce a word but once.
3. Insist upon neat work.
4. Examine the work yourself.
5. Keep a record of their per cents.
6. A mistake in capitals, is a mistake in spelling.
7. Count one per cent off for misspelled words.
8. Count five per cent off for words omitted, or mistakes not marked.
9. Let each pupil mark his own per cents, but you examine them to see whether his record is correct.
10. Let each pupil correct his mistakes.
11. Have frequent reviews of misspelled words.

Each pupil should have a blank-book ruled into columns. At the head of the one he places his own name, at the head of the other, the name of the dictionary which is his authority. In his own column

he writes his own incorrect spelling, in the other that given by his dictionary. At the end of the week, take these books and pronounce to him the words which he misspelled. He is provided with slate and pencil, pronounce to one all his words, to the next one his, and so on until all are finished. Or you might ask the pupils during some part of the day to write their names on the board, with the words as they spelled them under the name. At the recitation hour, let each one write the correct spelling opposite the incorrect. If this requires too much work to be practicable, let each pupil copy his incorrect spelling on his slate, before proceeding with the recitation, examine all the slates to avoid unfairness, and let each write the correct spelling opposite. This association of the correct with the incorrect must produce the desired result.

At the end of the month have a contest in spelling the words misspelled during the month. You have their record for the month. Arrange the pupils into two divisions according to their record. Placing the highest on one side, the next highest on the other, and so on alternately until all are in their places. Pronounce the words, a word to each pupil in turn, if any one misspells a word let those on the other side raise a hand, call on one to correct the error, if he fails let the other side raise hands, if one of them corrects it, record one against each side, but if he fails, call on the other side. If any one raises a hand when a word has been correctly spelled, record an error against his division. If the class is a very good one it might be well to count as many mistakes against a side, as there are hands that fail to come up. This method is exceedingly in-

teresting, and secures the attention of every pupil to every word.

Orthography for Advanced Classes.—When pupils have advanced into the Fifth Reader they should study orthography as a science. Let them make a thorough study of the parts of the grammar devoted to it.

Study the rules for spelling, and give daily drill upon them for many weeks until they are so well learned that they will be ever present in the mind. Arrange a long list of words that come under the rules and the exceptions, and as the pupil spells them either orally or in writing, let him give the rule or the exception.

Webster gives a complete list of words which are spelled in two or more ways. Select from this list such words as the pupil will be likely to use, and give thorough drill in their spelling, requiring the pupil to give both spellings and to say which is preferable.

Spelling derivatives is an excellent practice. First learn well the meaning of prefixes and suffixes. For a while, at first, the teacher should arrange lists of derivatives; require the pupil to learn the correct pronounciation, and how to indicate this by diacritical marks; the origin of the word; define the word; and give correct spelling, and if it comes under a rule give that. The recitation can be conducted in the usual way. Let them write the word marking its pronounciation and let the origin and definition be given orally. When this method has made the pupil familiar with derivatives, let each pupil make a list of words derived from a certain stem. Compare lists and make as complete a list as possible. Then give thorough drill upon this list as before.

This method is very useful as it shows that words are not arbitrary signs, but that each syllable of the word means something. It will lead the pupil to see the beauty, force and interesting history of the English language.

To assist the teacher in this method the following is taken from "Rhetoric Made Racy":

STUDIES IN DERIVATION OF WORDS.

"With the help of any good English dictionary, such as Webster's National Pictorial, or Webster's or Worcester's Unabridged Dictionaries, the English scholar may pursue his study of English derivation with great profit. He sees what appears to be a common element in two words, and turns to the dictionary to find his supposition confirmed or denied. If his supposition be wrong he may learn an unsuspected fact of great interest and value. If his supposition be found correct he has the same kind of satisfaction as any other Columbus or LeVerrier.

"He notes the words 'face,' 'surface,' 'deface,' 'efface,' 'preface,' and supposes they may have a common meaning as well as a common syllable. He finds that 'face' is from a word meaning 'to make'; that it means, primarily, the make—hence the shape, form, exterior form, of anything. The 'surface' is the super-face, the over, upper, face (compare 'surname,' 'surmount'). To 'deface' is to mar the face or form. To 'efface' is to destroy the form. But *face* in 'preface' he finds to be of wholly different origin, from a word meaning 'to speak.' These inquiries may suggest to him 'effect' and 'infect' as possibly having some kinship of derivation and meaning, and on inquiry of his silent teach-

er, the dictionary, he finds that they are recognized as from the same word, meaning 'to make,' that an 'effect' is that which has been wrought out, and that to 'infect' is to make in, to put in, as, to infect with disease. He follows up other suggestions, learning that 'affect' and 'defect' have in their use and from their derivation the meaning of this same original word, 'to make.' Looking further he finds many English words having remoter resemblances developed in form and meaning from the same: efficient, efficiency; deficient, deficiency; sufficient, sufficiency; proficient, proficiency; efficacious; suffice; effective, defective, defection; affection, affectation; infectious; fact, factor, factory, manufactory, refectory, confection, confectionery; faction, factious; factitious; perfect, perfection; prefect; superficial; facile, facility, faculty, difficult, difficulty; amplify, amplification, beautify, beatify, beatific, beatification, certify, certificate, certification, clarify, clarification, classify, classification, codify, codification, deify, deification, dignify, edify, edifice, edification, falsify, falsification, fortify, fortification, fructify, fructification, glorify, glorification, gratify, gratification, horrify, horrific, identify, identification, indemnify, indemnification, intensify, intensification, justify, justification, liquefy, liquefaction, magnify, magnificent, modify, modification, munificent, mystify, mystification, mollify, mortify, mortification, notify, notification, nullify, nullification, ossify, ossification, pacify, pacific, pacification, petrify, petrifaction, purify, purification, putrefy, putrefaction, qualify, qualification, ramify, ramification, rarefy, rarefaction, ratify, ratification, rectify, rectification, sanctify, sanctification, satisfy, satisfaction, scarify, scarification, simplify, simplification, signify, signifi-

cant, signification, stultify, stultification, stupefy, stupefaction, terrify, terrific, testify, verify, verification, vivify, vivific, vivification, versify, versification, vilify, vilification (but not crucify or defy; happify, countrified, sometimes used, are not in the dictionary); profit, benefit, benefice, benefaction, beneficent, comfit, counterfeit, forfeit, surfeit, office, officer, officious, officiate, artifice, artificer, orifice, sacrifice, sacrificial, prolific, traffic, fabric, fabricate, frigate, forge, forger, profit, fashion, facade, fiat, malfeasance, pontiff, feat, defeat, feature, affair, feasible.

"Here are more than *one hundred and eighty* words derived from one root, meaning "to make." The root meaning "to place" gives not less than two hundred and fifty English words, among which are compose, composite, compositor, composition, component, compost; depose, deposit, deponent, deposition, depot; apposite, apposition; ex—, im—, inter—, op—, pre—, pro—, pur—, post—, re—, sup—, super—.

"Twelve roots enter into the composition of *twenty-five hundred* English words."

USE OF THE MOTHER TONGUE.

The object of education is to develop and train the thinking power. Thought and expression are very closely related. If the thinking is clear, consistent and vigorous, expression will usually be so. Right expression stimulates right thinking in another. Poor expression cripples thought.

Thought is first importance and expression is secondary. The teachers first object should be to awaken thought. His second, to give it proper expression. Expression should never be cultivated for its own sake, but should be cultivated as the means of showing what

the thought is. The aim should be to express the thought correctly, completely and effectively. To teach the correct and efficient use of the mother tongue becomes, therefore, of greatest importance. And if any thing must be neglected let it be some thing else but not language lessons. It should begin when the child begins to talk and continue all through his life. For it is only by a good knowledge of language that he can get the thoughts of others, and only by skill in the use of language that he can make his own thought effective.

If the pupil would *learn* to think he must *think*. If he would *learn* to talk or write, he must first think and then talk or write. He must learn by doing. There is no other way, if he would learn to use the mother tongue he must use it. English Grammar is said to teach how to speak and write the English language correctly. It does nothing of the kind. Correct speaking is a habit formed by repeated imitation of correct speaking. Grammar is of very little aid. To learn good English children must hear, see, and use good English. The usefulness of Grammar is in this, that when the mind has been sufficiently developed to comprehend abstract subjects, it enables the student to understand the science of the language. It enables him to better understand the power and beauty of the language, and thus opens to him a great field of truth. By entering this field he will expand and liberate his mental faculties, which will give him a broader and more masterly knowledge of man and his history. But correct speaking and writing is a habit and can be formed only by practice.

The true method of teaching the use of the mother-tongue must possess the following features :

1. It must begin when the child begins school.

2. It must make the thought the primary and expression the secondary object.

3. It must secure oral expression.

4. It must secure written expression.

5. It must awaken thought and make expression a pleasure.

6. It must lead gradually to a knowledge of the science of language.

7. It must make Composition natural and easy.

Grammar is the science of language and includes Orthography, Etymology, Syntax and Rhetoric. If the pupils have been properly taught in language they will find grammar very interesting, and when they have completed the first three parts they will find Rhetoric fascinating. For here they learn to appreciate good thoughts and expression, their work in composition has paved the way so that their own efforts at composition will be pleasant. Having completed these studies they are able to explore the vast field of Literature and enjoy its invaluable treasures.

Direction for the first language work will be found under methods of teaching the First and Second Reader. When they can enter the Third they should take up the regular course in the mother-tongue. Prof. W. B. Powell has prepared two books. "How to Talk" and "How to Write" that are as nearly faultless as books can be.* They should be in every school in the land. At least every teacher should have them that he may learn how to teach language. By permission of the author the following pages are inserted and they will give a better idea of the true method than any amount of description can do:

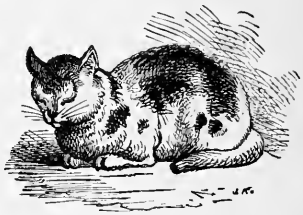
* Published by Cowperthwait & Co., Philadelphia.

How to Talk.

Lesson I.

Nouns and their Forms.

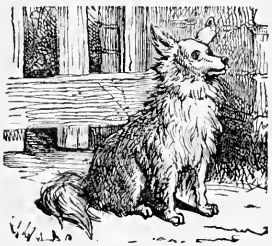
The word **cat** is the name of this animal.



The form of the word that means more than one is **cats.**

The name **cat** means but one, and is the **singular form.**

The name **cats** means more than one, and is the **plural form.**



The word **dog** is the name of this animal.

The form of the word that means more than one is **dogs.**

What form is the name **dog**?

What form is the name **dogs**?

What form is the name **hat**?

The name hat is the ____ ____.

What form is the name **hats**?

The name hats is the ____ ____.

What is the plural form of the name **rat**?

____ *is the plural form of the name rat.*

What is the name of this animal?

____ *is the name of this animal.*

What is the plural form of this name?

____ *is the plural form of bird.*

Definition: A name is **a noun.**

Write the plural forms of these nouns:

cow	book	slate	desk
squirrel	apron	scarf	toy
roof	animal	monkey	shoe
hat	dog	rat	frog
girl	noun	pencil	lamp

Write the singular forms of these nouns:

pictures	robins	pianos	hands
clocks	goats	rabbits	zeros
mittens	cloaks	weeks	cuffs
skates	boots	trees	birds
bats	mats	stars	nouns

What is added to the singular form to make the plural form? How is the plural form of these nouns made?

Write and learn the following:

Law: **The plural form of most nouns is made by adding s to the singular form.**

Lesson II.

Verbs.

The rat runs.

What word tells what the rat does?

The word ____ tells what the rat does.

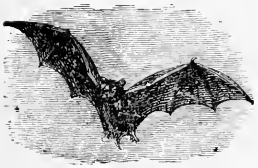
The word **runs** is an **action word.**

The boy hops.

What word tells what the boy does?

What is the word **hops**?

The word hops is an ____ ____.



What does the bat **do**?

The bat ____.

What is the word **flies**?

The word flies is an ____ ____.

Write and learn the following:

Definition: **A word that expresses action is a verb.**

Use an action word in each of the following blanks:

A cat ____	Cats ____
A horse ____	Horses ____
A duck ____	Ducks ____

Write twenty words that express action.

Nothing adds more to the beauty of speech than correct pronunciation.

In the following lists are words that are often pronounced incorrectly. Pattern words, in **bold type,** are given to show how to pronounce the other words.

Pronounce the words carefully and distinctly.

Drill yourself on each list until correct work is a habit.

List for Pronunciation. I.

(Drill Exercise: two minutes long.)

Give the sound of ŏ as heard in the word **clock.** Give it five times. Put this sound into each of the following words. Pronounce the list rapidly:

ŏ	ŏ	ŏ	ŏ
clock	gone	office	log
sod	cotton	fog	frost
soft	not	borrow	hod
cloth	dog	cobweb	frog
wrong	bottle	on	moss

Composition I.

(Oral.)

What does this picture represent?

1. This picture represents a boy and a girl making a garden.

Where is the girl?

2. The girl is kneeling on the ground.

What is she doing?

3. She is looking at a paper of small black seeds which she holds in her hands.

Where is the boy?

4. The boy stands in front of the girl.

What has he in his right hand?

5. The boy has a spade in his right hand.

What is he doing?

6. He is leaning toward the girl and pointing to the seeds with the fore-finger of his left hand.

What is behind the boy?

7. Behind the boy is a large watering-pot.

What is back of the girl?

8. Back of the girl is a bench on which are several pots of plants.

Unite the second and third answers, omitting unnecessary words.

The girl is kneeling on the ground looking at a paper of small black seeds which she holds in her hands.

Unite the fourth and fifth answers, omitting unnecessary words.

The boy stands in front of the girl, and has a spade in his right hand.

A Description of a Picture.

Making a Garden.

This picture represents a boy and a girl making a garden.

The girl is kneeling on the ground looking at a paper of small black seeds which she holds in her hands. The boy stands in front of the girl, and has a spade in his right hand. He is leaning toward the girl and pointing to the seeds with the fore-finger of his left hand.

Behind the boy is a watering-pot.

Back of the girl is a bench on which are several pots of plants.

Composition II.

(Oral.)

driving	toward
between	thumb
several	chisel
facing	turned
strike	heavy
hammer	nails

What does this picture represent?

What is the position of the girl? What is she doing?

Where is the boy? What is he about to do? With what is he about to strike the nail?

What are on the floor near the boy?

What is back of the girl?

Describe this picture.

Composition III.

(Oral.)

arrow		shooting
bow		rests
knee		mark

What does this picture represent?

What is the position of the boy?

What has the boy in his hands? In what position are the bow and arrow? Where is the tree?

Describe this picture.

Composition IV.

(ORAL.)

pillow
holds
stool
talking
lies
sits

Describe this picture.

Composition V.

(ORAL.)

narrow
rolling
braid
beneath

edge
fancy
buckle
crown

What kind of crown has this hat? What kind of rim has it? How is the edge of the rim finished?

What is around the crown? Where is the band fastened? Beneath what is it fastened?

Describe this hat. Place your own hat on the desk and describe it.

Lesson XXXVIII.

The Verb **Sit.**

The boy sits in a chair.

You sit in a chair.

The cat sits in the boy's lap.

The boy sat in the chair.

The cat sat in his lap.

The word **sit** means **rest.**

"You sit in this chair" means *You rest in this chair.*

The word **sits** means **rests.**

"The boy sits in a chair" means *The boy rests in a chair.*

The word **sat** means **rested.**

"The boy sat in a chair" means *The boy rested in a chair.*

What time is expressed in the first sentence? in the second? in the fourth?

Define the present forms; the past form.

The forms of the verb **sit** are:

Present Forms.		Past Form.	Complete Form.
sit	sits	sat	sat

Notice that two of the forms of **sit** are alike.

Which are they?

Define the words **have sat, has sat** and **had sat.**

Fill each blank with a form of **sit:**

1. *Jennie* ____ *with me.*
2. *Will you* ____ *with me?*
3. *The tub* ____ *in the corner.*

4. *The dress ____ well.*
5. *Does the coat ____ well?*
6. *You ____ up late last night.*
7. *I have ____ in this chair many times.*
8. *If you are willing, I will ____ in this chair.*
9. *You ____ in it yesterday.*
10. *Has the lamp ____ on the table all day?*
11. *May and Lottie ____ together.*
12. *He had ____ in this chair before yesterday.*

Composition XXIV.

(Oral and Written.)

Tell the story suggested by this picture, using the forms of the verb **sit.**

Lesson XXXIX.

The Verb **Set.**

You set the pitcher on the table.
He sets the pitcher on the table.
He set the pitcher on the table yesterday.

The word **set** means **place** or **put.**

"You set the pitcher on the table" means *You place the pitcher on the table.*

Composition XXXII.

(Oral and Written.)

TRY AGAIN.

Harry
playful
castle
morning
building
tower
busy
blocks

What is Harry doing? What does the block which he is now placing represent?

What was Harry doing one morning? What happened as he was putting on the last block?

angry

naughty

caught

throw

Of what is this a picture? What is he about to do?

How did Harry feel? What did he say? What did he do?

sister

crying

Jennie

Of what is this a picture? What is Sister Jennie doing? Why does she do this? What is Harry doing?

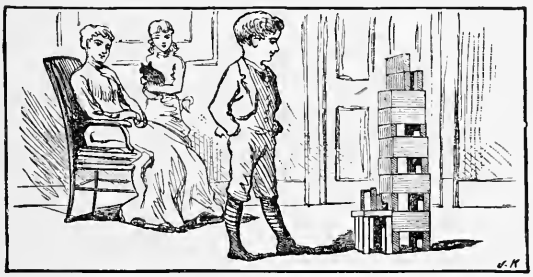
What did Sister Jennie do? Why? What did she say? What did Harry do?

Of what is this a picture?
Who is coming?
What does she hear?

Who came?
What did she hear?

Where is Harry?
What is mamma doing?

What did mamma do?



What have they?
What is Harry doing?
How does he look?

What did Harry do after the castle was completed? How did he feel?
What lesson did he learn?

Write a description of each picture.
Write the story suggested by these pictures.

Composition XXXIII.

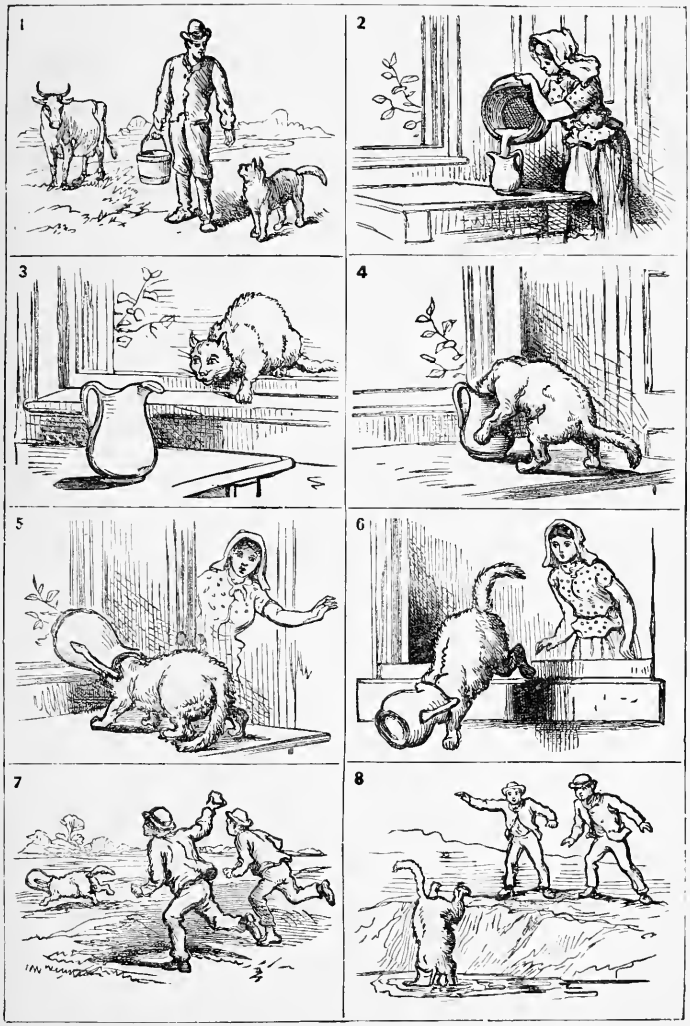
(Oral and Written.)

Write a description of each picture.

Tell the story suggested by these pictures.

Composition XXXIV.

(Oral and Written.)



Describe each picture. Tell the story suggested.

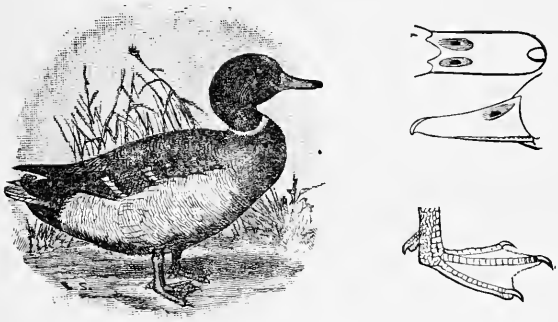
These pages are taken from different places in "How to Talk" and give a fair idea of the work. The exercises are well arranged, advancing gradually from easy to difficult. "How to Write," is a continuation of "How to Talk." The work in technical grammar is a little more advanced and is a review of that in "How to Talk." Then comes work in which punctuation and the choice of words receives special attention. The second part of the work is devoted to composition. This is an excellent introduction to technical rhetoric as part first is to grammar. "How to Talk" should be used by Third and Fourth Reader pupils and "How to Write" by Fifth Reader pupils. Technical Grammar should be begun when Part I of "How to Write" has been completed.

The following pages will give a good idea of how composition should be taught:

PART II.

COMPOSITION.—DESCRIPTION.

Composition I.



THE DUCK.

The duck is a bird of medium size, with a body shaped somewhat like a boat and covered with soft, downy feathers.

It has a narrow head and a broad, flat bill. Its neck is short and slender. The wings are rather small and the tail is short. Its legs are placed far back on the body and are widely separated. The three front toes of each foot are united by a web. The hind toe is free and is slightly elevated.

The duck is fitted for swimming, by the shape and the covering of its body, and also by the position and structure of its legs and feet, and it spends much of its time on the water.

I wish you to write a description of the duck.

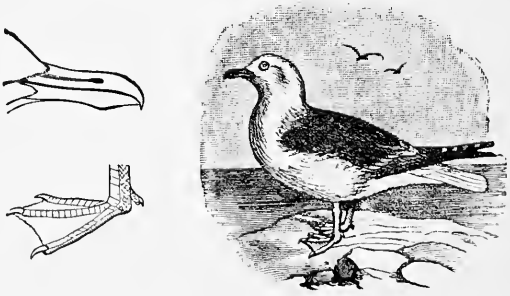
You will be helped in your work by noticing the points in the description given. Look at the picture, then carefully read the description again, and note as follows:

1. Size, shape and covering.
2. Head and its parts.
3. Neck.
4. Wings.
5. Tail.
6. Legs, feet and toes.
7. Habits—how known.

Before you try to describe an object you should select for your description the points which will best represent the object to the mind of him who listens.

You will be helped further if you will adopt some order in giving the points that you have selected to talk about. Note the order above. A careful selection of the points, and a careful arrangement of the points selected, aid alike the speaker and the listener, the writer and the reader.

Composition II.



Look at the picture and answer the questions on the next page; then write a description of the gull.

THE GULL.

1. What is the size and general shape of this bird?

2. What is the character of its covering?

3. What is the size and shape of the head?

4. What is the size, and what the shape, of the bill?

5. What kind of wings and tail has the gull?

6. What kind of legs has the gull, and where are they placed?

7. What kind of feet has the gull?

It will be helpful to present to view the selected points before the work of writing is begun. The following is suggested:

Topical Outline.

Description of the Gull

- General Appearance
  - Size,
  - Shape,
  - Covering,
  - Color.
- Parts
  - Head and parts,
  - Neck,
  - Wings,
  - Tail,
  - Legs, feet, toes.
- Habits
  - How known.

Composition III.

THE HAWK.

Write a description of the hawk, referring to the picture and following the given outline.

Topical Outline.

Description of the Hawk

- General Appearance
  - Size,
  - Shape,
  - Covering,
  - Color.
- Parts
  - Head
    - Shape,
    - Eyes,
    - Bill;
  - Neck,
  - Tail,
  - Legs, feet.
- Habits
  - How known.

Composition XXXIII.

PLAYING SOLDIER.

Write a description of this picture, following the given outline.

Topical Outline.

Description of a Picture ("Playing Soldier")

- Subject of Picture.
- Location of Scene.
- Principal Figures
  - Children — Size, Position, Occupation.
  - Bear — Size, Position, Occupation.
  - Woman — Position, Appearance.
- Surrounding Objects — Wagon, Chair.

Composition XXXIV.

Name the subject of this picture and write a description of it, selecting the points and arranging them in the form of an outline before beginning to write.

Composition XXXV.

Name the subject of this picture and write a description of it, selecting the points and arranging them in the form of an outline before beginning to write.

3. Death of Mr. Armstrong.

4. Young Armstrong charged with the death of an associate.

5. Mr. Lincoln's action in the case.

6. The trial and result.

7. Gratitude of the Armstrongs.

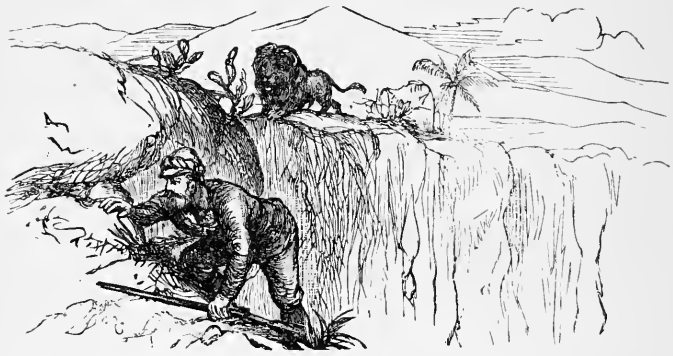
Composition LXII.

THE HUNTER AND THE LION.

A hunter, while crossing a field on his way home, saw a large lion close by watching him. The hunter, having exhausted his supply of bullets, and knowing he could not escape the lion by running,

looked about for a safe hiding-place. But the field was bare and offered no protecting retreat, and the hunter soon saw that but one chance remained—that of deceiving the lion. So he crept

along the ledge of a high cliff and hid himself behind a large rock. He then took his hat and



coat and fixed them on his gun, so as to make them look like a man. As soon as the hunter saw the lion approaching he held the gun, thus dressed,

above the rock. The lion made a spring at what he supposed to be the man, leaped over the cliff where the hunter was concealed, and was dashed in pieces on the rocks below. The hunter descended

and recovered his hat and coat, but found his gun shattered in pieces. As he looked at the lifeless

form of the lion he was filled with thankfulness for his own deliverance.

THE HUNTER AND LION

- Meeting of hunter and lion,
- Hunter's search for a place of safety,
- Secretion of hunter,
- Arrangement of gun,
- Approach of lion,
- Death of lion,
- Recovery of hat and coat,
- Thankfulness of hunter.

Write a reproduction of the foregoing story, referring to the pictures while writing. In writing this reproduction, you will be aided by noting the principal points that have been selected and the order in which they have been arranged, as shown in the outline.

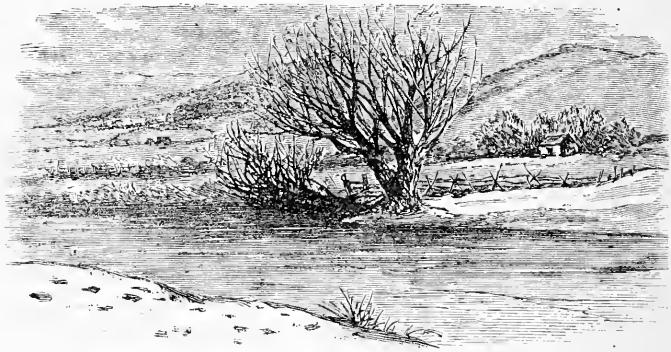
Composition LXV.

THE NARROW ESCAPE.

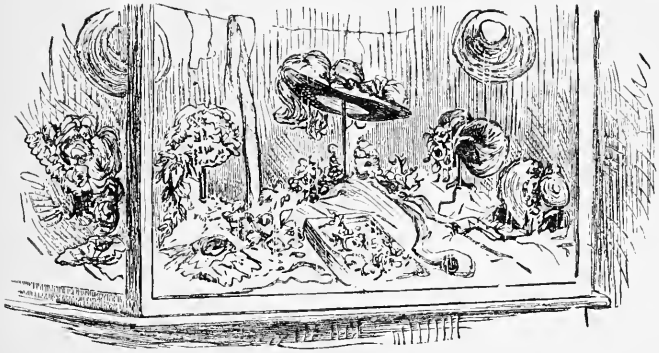
The Narrow Escape	Introduction	The reading of the story.
	Discussion	Occupation of the boy, Accident, Rescue from the stream, Restoration to life, Joy of the dog.
	Conclusion	Advice given to the boys.

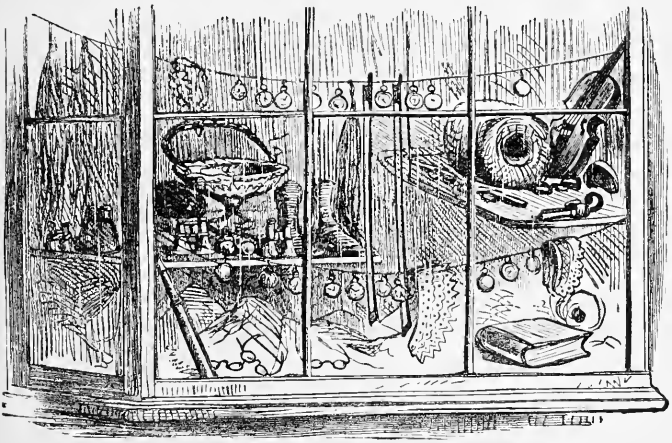
Composition LXVI.

FRANK'S FIRST ATTEMPT AT SKATING.



Composition CI.





THE TWO WINDOWS.

The Two Windows

- Introduction: Object of displaying goods in show windows.
- Discussion: Location; Size; Glass; Cleanliness; Goods contained therein; Arrangement of goods; General effect. (Likenesses, Differences.)
- Conclusion: The thoughts suggested by the two windows—the one telling of happiness and wealth; the other, of want and suffering.

Write a composition, comparing the two windows and drawing conclusions therefrom. Follow the given outline while writing.

Composition CII.

WITHIN AND WITHOUT.

"The twilight shadows come and go
Upon the window-pane,
While, from without, the wintry wind
Keeps up a sad refrain.

"Within, the firelight plays
Across the nursery floor,
And Jack Frost knocks in vain the while
Upon my nursery door.

"Without, are hunger, cold and pain,
And aching heads and hearts,
And weary limbs and hopeless eyes,
From which fear ne'er departs.

"Within, are gay and happy hearts,
And feast, and game, and song,
And limbs unwearied, save with play
That lasts the whole day long."

Within and Without

- Introduction } (Wanting.)
- Discussion
  - Without
    - Shadows,
    - Wintry wind,
    - Hunger,
    - Cold,
    - Pain,
    - Aching heads and hearts,
    - Weary limbs,
    - Hopeless eyes.
  - Within
    - Firelight,
    - Gay and happy hearts,
    - Feast,
    - Game,
    - Song,
    - Unwearied limbs.
- Conclusion } (Wanting.)

Composition CIII.

NOW AND THEN.

Playing by the stream,
  Full of peace and joy,
Life a pleasant dream,
  Happy little boy!
Tiny hopes afloat
In a fairy boat—
Boat that needs no oar.
Ah! so near the shore!

Standing by the stream,
  With a care-wrapt brow,
Life no more a dream,
  But a waking now.
Hopes far out of sight,
Borne with tempest might
O'er the misty main,
Ne'er to come again.

—*Matthias Barr.*

Transform the above poem. Make an outline before beginning to write.

Composition CIV.

THE HERITAGE.

The rich man's son inherits lands,
  And piles of brick and stone and gold;
And he inherits soft white hands,
  And tender flesh that fears the cold;
  Nor dares to wear a garment old;
A heritage, it seems to me,
One would not care to hold in fee.

The rich man's son inherits cares:
  The bank may break, the factory burn;
Some breath may burst his bubble shares;
  And soft white hands would hardly earn
  A living that would suit his turn;
A heritage, it seems to me,
One would not care to hold in fee.

The rich man's son inherits wants:
  His stomach craves for dainty fare;

GRAMMAR.

Technical Grammar is a study which deals largely in abstract ideas. Before the student can pursue it with interest and profit he must be matured in years and have a fair supply of general knowledge. Thirteen or fourteen years of age is early enough for one who has had the best advantages to begin the study. If the work in language has been well done, one or two terms is all that is necessary to master English grammar.

The work in language has been almost entirely synthetic, and that is as it should be; for it is the order of nature. This synthetic study of language prepares for studying it analytically. Grammar can be best studied analytically. It is more interesting and gives just the mental exercise that is required at that period of advancement. Grammar gives not only that useful knowledge which is the entrance to a wider field beyond, but it affords also that mental exercise which sets free the reasoning faculties and makes the mind capable of its highest activity. In teaching it, its usefulness as a preparatory study and a mental drill should be kept constantly in mind.

How to Teach Grammar.—It is best to begin with syntax, for before the student can understand the relation of words in the sentence he must understand the sentence as a whole. Yet it is not best to take up the subject of syntax with the intention of completing it before taking up another. The student should get a clear idea of the subject and be able to apply his knowledge in *easy* exercises. Give him a clear understanding of the whole subject, the principal and sub-

ordinate elements, and secure skill in the analysis of easy sentences, and then take up the subject of etymology. In this, too, master the principles and apply them in parsing easy constructions. Be careful not to increase difficulties too fast.

The student is now prepared to take up difficult work in both syntax and etymology. And now these subjects should be studied together. The one will help in the thorough mastery of the other. Take difficult sentences from Shakespere or Milton, analyze them and parse all difficult words on those which illustrate a rule of grammar.

Objects to gain by the Study of Grammar:

1. Seek to impart a knowledge of correct English.
2. Seek to secure close application of the thinking faculties.
3. Seek to develop the power of logical analysis.
4. Seek to develop the power of accurate definition.
5. Seek to establish reliance upon the students own judgment.

A Knowledge of Correct English.—Correct speech is a habit formed by imitating those who speak correctly. But if a child has not formed this habit the study of grammar will aid him, as it shows when and why his language is correct. You should require pupils to criticise each other's work, not that only which is written but their spoken language as well. Let it be understood that at school among pupils that a criticism is an act of kindness and not of impoliteness as it would be in any other place.

Close Application of the Thinking Faculties.—This can be secured by making accuracy in their exer-

cises one of the main objects. Let them understand that a little mistake is as bad as a great one. This end is best secured by writing the exercises. It gives the student a better opportunity to discover his own mistakes. For while he is writing his thought the mind has time to discover a mistake which in the hurry of silent study would go unnoticed. Require each member of the class to criticise any work which does not accord with his own ideas. This can be best done by one student writing his exercise on the board. He recites it and each student compares his own written work with it, and raises his hand when it does not agree with the one who is reciting. You then call on all in turn to state the criticism, and permit the one who is reciting to answer the criticisms if he wishes to do so. Or let each student in turn read his work from his exercise book, and let the others criticise in the same way. This method secures the attention of all, and enables each one to compare his work with others and to learn wherein he is in error.

Parsing and analysis are the best exercises of the school to secure close application of the mental powers. There are so many points to be kept in mind, that unless the student is very careful, he will make a mistake. In parsing, you should have an established order of describing the word, for this will aid others to compare their work with that which is being recited. Then you should insist on *definite statements*, and not permit them to recite in general terms.

In the sentence, "The man who studies will learn," parse *who*. The student may do it in this wise, "*Who* is a pronoun, relative, agreeing with its antecedent in 3d person, singular number, masculine gender, accord-

ing to the rule: "A pronoun must agree with its antecedent in person, number and gender; nominative case, according to the rule. "The subject of a proposition is in the nominative case."

This work is of little benefit to the student; for the greater part of it may be guess work instead of knowledge. He should say: *Who* is a pronoun, relative, its antecedent is "man," with which it agrees in 3d person, singular number, masculine gender, according to the rule; "Pronouns must agree with their antecedents in gender, person and number;" declension, *sing.*, nom., *who*, possessive *whose*, objective *whom*, *plural* the same. It is of the nominative case, being the subject of the verb "studies," according to the rule: "The subject of a finite verb is in the nominative case." If the student is required to make his statements definitely, he will often discover his own mistake before writing his work, and if he does not, the other members of the class or the teacher can tell at once in what particular the student has failed to get the exact truth.

Logical Analysis.—No study of the school is better adapted to develop the power to analyze a subject than is Grammar. And it should be made to do its whole duty in this particular. In both Syntax and Etymology, the pupil should be required to make outlines of every subject. Each pupil should make his own according to his own idea of the subject, and then the work should be criticised by pupils and teacher. The teacher should at first outline a subject for them, but when they get the idea, the pupils should do the work unaided. A subject should not be considered finished until the student can make an outline of it

unaided by a book. Nor should he make it from memory, but make it from a knowledge of the subject, and of the logical arrangement of the subject matter.

The exponential system is a good one, and is especially suitable for work that is to be preserved. The following will serve as an example :

NOUN.

1^1 Definition.
2^1 Classes.
  1^2 Proper.
    1^3 Def.
    2^3 Example.
    3^3 Rule for Writing.
    4^3 Remark
  2^2 Common.
    1^3 Def.
    2^3 Classes.
      1^4 Concrete.
        1^5 Def.
        2^5 Example.
      2^4 Abstract.
        1^5 Definition.
        2^5 Example.
      3^4 Collective.
        1^5 Def.
        2^5 Ex.
      4^4 Verbal.
        1^5 Def.
        2^5 Ex.
3^1 Modifications.
  1^2 Remark. Nouns undergo certain changes in form, to show their change of meaning, or

their relation to other words, as *boy* is changed to *boys*, to change the meaning from one to more than one.

2^2 Classes.
1^3 Gender.
1^4 Def.
2^4 Classes.
1^5 Masculine.
1^6 Def.
2^6 Ex.
2^5 Feminine.
1^6 Def.
2^6 Ex.
3^5 No gender.
1^6 Def.
2^6 Ex.
4^5 Undetermined.
1^6 Def.
2^6 Ex.
3^4 Formation.
1^5 By another word, as boy, *girl*.
2^5 By change of termination, as lion, lion*ess*.
3^5 By prefix as *man*-servant *maid*-servant.
2^3 Person.
1^4 Def.
2^4 Classes.
1^5 First Person.
1^6 Def.
2^5 Second Person.
1^6 Def.
3^5 Third Person.
1^6 Def.
3^3 Number.

1⁴ Def.
2⁴ Classes.
1⁵ Singular.
1⁶ Def.
2⁵ Plural.
1⁶ Def.
3⁴ Formation.
1⁵ Regular.
2⁵ Irregular.
3⁵ Foreign.
1⁶ Latin.
2⁶ Greek.
3⁶ French.
4³ Case.
1⁴ Def.
2⁴ Classes.
1⁵ Nominative.
1⁶ Construction or relation in the sentence.
1⁷ Subject of a finite verb.
2⁷ Complement of the predecate.
3⁷ In apposition with a noun or pronoun.
4⁷ In apposition with a sentence.
5⁷ Independent.
1⁸ By inscription.
2⁸ By direct address.
3⁸ With a participle.
4⁸ By exclamation.
5⁸ By pleonasm.

Teachers not familiar with this method of outlining may be aided by comparing it with the brace method. It will be seen that in the brace method, we place a subordinate topic behind a brace, placed behind the

more general topic. In the exponential method we place it *under* the general topic. The large figure indicates the number of the topic, the exponent indicates the degree of subordination from the subject, and takes the place of the brace in the other method.

NOUN

- 1^1 Definition.
  - 1^2 Proper
    - 1^3 Def.
    - 2^3 Ex.
    - 3^3 Rule for writing.
    - 4^3 Remark.
  - 2^1 Classes
    - 1^3 Def.
    - 2^2 Common
      - 1^4 Concrete
        - 1^5 Def.
        - 2^5 Ex.
      - 2^4 Abstract
        - 1^5 Def.
        - 2^5 Ex.
      - 3^4 Collective
        - 1^5 Def.
        - 2^5 Ex.
      - 4^4 Verbal
        - 1^5 Def.
        - 2^5 Ex.
    - 2^3 Classes
- 2^2 Remark.
- 3^1 Modification
  - 1^3 Gender.
  - 2^3 Person.
  - 2^2 Classes
  - 3^3 Number.
  - 4^3 Case.
- 4^1 Order of Parsing: Parts of Speech, Class, Gender, Person, Number, Case, Construction, Rule.

It is an excellent drill to make complete outlines of the whole subject, and write out all definitions, rules, remarks, etc. Let these be kept in suitable books and let them be prepared as neatly as possible.

Develop the Power of Accurate Definition.—Definitions memorized from a book are of little use. The pupil should study the subject and form a good conception of it, get the idea, the truth; then let him define it in his own words. Do not allow a definition to pass as correct when any exception can be taken to it. The power of accurate definition is the test of accurate knowledge.

Establish Reliance upon the Student's own judgment.—In making a thorough study of grammar the student will find that there are various opinions of grammarians on many points. He will therefore have to exercise his own judgment as to which view is best. Encourage the student to learn the opinions of as many authors as he can, and listen respectfully to his opinions, however erroneous in your opinion, and never require him to give up without being convinced of error.

CHAPTER XIX.

SCIENCE.

Geography.—As it is with exercising the body so it is with the mind. We must have room in which we can bring into action every muscle. So in mental exercises must we have room in which to exert every faculty. The study of geography widens the horizon of knowledge, expands our ideas, and gives us more material upon which our faculties may act. There is so little in each man's immediate neighborhood that the mind can form no sweeping generalizations that enable him to comprehend the world in which he lives. Unless he can get the truth from a wide field in space and on the earth's surface, his ideas must necessarily remain undeveloped like those of childhood. The knowledge of facts and phenomena of a wide field of observation is necessary to liberate the mind from the thraldom of ignorance. We have a striking illustration of this truth in the progress of the human race since the days of Columbus and Galileo. What a great help to the philosophers of that day were the facts gained by Marco Polo and Sir John Mandeville! Out of what a slough of ignorance did the discoveries of Columbus and Magellan lift the mind! How much grander and more correct were the ideas of thinkers when Galileo was able to visit the distant planets by means of his telescope!

Most of our subjects of thought occupy space, either real or imaginary. And when we have several subjects they occupy spaces in certain relations to each other. These relative positions we call location. That our ideas of a subject may be adequate and definite we must have clear and adequate ideas of space and location. Geography is therefore a very important study, both in its power to develop the mind and as yielding useful information. Indeed, it is impossible to have a comprehensive mind without a good knowledge of geography. Any amount of learning is extremely imperfect and shallow without geographical knowledge.

Francis W. Parker says: "The first work in geography is to build into the mind by means of the imagination, the stage, that may afterward be filled with moving and acting human beings." On this stage has been acted the drama of the human race. On this stage Truth has conquered Error, Virtue has contended with Vice; man has emancipated himself from ignorance and wrong. Every human being comes into the world and has to conquer the ignorance and wrong in his own being, but in this conflict he may be greatly helped by a study of what has been done by the millions who have preceded him, by learning what men have done and thought and felt. And to do this successfully the child must learn well the stage on which these scenes have been enacted.

It is of course impossible to study geography objectively to any great extent. The imagination therefore becomes a prominent factor in this study. And any method of teaching that does not recognize

the imagination as the most prominent factor, will prove barren of results. The child must learn from what it sees of the earth's surface to conceive the whole world or any part of it, as it is. It can not see England or Italy as they are, therefore must imagine them as they are, and the accuracy of knowledge depends upon the correctness of the picture in the imagination. The imagination being the field of operation makes geography a difficult subject to teach. To teach it requires a thorough knowledge of principles and great skill in the application of this knowledge. Unless the imagination can be so quickened that what is studied seems a part of the real world, the study becomes merely a task of memorizing names and disconnected facts, which do not expand the mind or afford useful information. But if taught and studied aright, geography becomes a delightful work of exploring the wonders of the world, and its immediate results are much useful knowledge, and the liberation of the mental faculties that enables them to go beyond the limited space in which life is spent and operate free in all the world.

Primary Geography. — The study of geography should be divided into two distinct periods. Each of these periods has its particular object, and the method of teaching should be adapted to secure the objects. Primary geography should be taught with a view to prepare the student for advanced geography. Advanced geography should be taught and studied with a view to master the subject, so as to fully understand the world. Primary geography should be divided into two parts. Oral work and text-book work.

Oral Geography.—The oral work should be begun

in the third school year. The teacher should seek to secure the following ends:

1. *A knowledge of geographical forms from observation.* The first step is to gain a knowledge of those forms that are the elements of a wider knowledge. Out of the child's ideas of hills, valleys, and the different forms of water, must be built up a true conception of continents and the ocean. The first lessons then should be on forms that the child can see. Have talks about the hills, plains, valleys, brooks, rivers, ponds and lakes. Teach them the cardinal points and the semi-cardinal points. Give them an idea of boundaries by means of fences, roads and brooks. And while they are learning these forms teach them also much about trees, plants, soil, drainage and the seasons.

The points that the children are to learn are in fact few. Those that have been named are about all. The unskillful teacher will pass over the ground in a few weeks while the skillful teacher will take months.

In order that you may teach this part of the work as it should be you must have this end in view: Keep the child interested, by what it matters little so that it becomes familiar with these geographical ideas. Remember your aim is to make the child *think*, and not simply to learn names. So everything that has any connection with these ideas is useful so long as it interests the child and tends to excite a desire for knowledge.

2. *Secure the expression of the idea in moulding, drawing and language.* For moulding, make a box three by four feet, and three inches deep, fill this with very fine sand, and moisten it so that it will hold its form well. The first lessons should be very simple,

only hills and valleys. Then they should look at a landscape and mould it from memory. Increase the complexity of the work as they progress. When they have moulded a landscape let them reproduce it in drawing. Show them how to represent hills, watercourses, boundaries, etc. Connecting drawing with the moulding will enable the child to conceive, the real forms by a map and this is a lesson for the imagination. Draw a map of the school grounds, the neighborhood, and mould whatever is practicable. Let the children give oral and written description of a model they have made or of a landscape which they have examined.

3. *From the knowledge of the forms gained by observation build up a knowledge of the continent.* Better begin with South America because it is so simple in structure. You can easily lead them to see that everything is on a larger scale than in their models of landscapes. Be sure that they get a true idea of mountains and rivers. Relief maps will help you greatly in developing the ideas. The name South America should cause a true image of the grand division to arise in the child's mind. It is only then that it has *knowledge.*

Take up North America in the same way. Then connect the two and show their position on the globe. Take up next the United States as a whole. Then particular parts of it, as the New England States, etc. Using relief maps, moulding, drawing and description all the time. A large collection of stereopticon views are most useful. While the children are doing this work you should tell them everything that they can understand and in which they are interested. There

are a thousand things about mountains, rivers, lakes, seas, animals, plants and people, and natural phenomena that will be interesting to children.

Text-Book Work.—In the fifth year of the child's school life it should have a primary geography. But the same work that was done in the oral work should occupy most of the time. They should study other grand divisions in the same way as they did the Americas. More time should now be spent in filling up the stage with whatever there is for study, climate, vegetable and animal products, nations, their cities, their habits of life, etc. Remember to excite the imagination, and try to have them feel, while studying a country, that they are traveling in the country, and see with the mind's eye. When you have been all over the world, come home and give our country a thorough study. And to close this work give as good an idea as the children can get of the shape of the earth, its motions, and the effect caused by them. This work should be continued to the seventh year.

Advanced Geography.—Advanced geography can be advantageously studied by pupils thirteen years of age if they have had good drill in the primary work. It is supposed that the pupils have a fair knowledge of the geography of the whole world. And the object of the study now is to master the subject, to become familiar with all the difficult things as well as the easy ones. Map drawing should be kept up, and a point should be made to get information from every possible source, such as encyclopædias, newspapers, magazines, books of travel, etc.

The topical method is best adapted to this work. A variety of text-books is desirable. You should make

a topic-list adapted to each grand division and each country. A topic-list of North America is given below as a guide.

North America.

I. *Position.*
1. Latitude and Longitude.
2. Hemisphere.
3. Grand division.
4. Continent.

II. *Extent.*
1. Ocean to Ocean.
2. Length.
3. Width.
4. Area.
5. Comparative size.

III. *Form.*

IV. *Outline.*

Remark to Teachers: While studying the above topics have pupils draw plot of map, parallels, meridians, etc.

1. General statement of outline.
2. Particular parts of outline.

Northern Coast.

1. *Projections.*
   a. Peninsulas.
   b. Capes.
2. *Indentations.*
   a. Gulfs.
   b. Bays.
3. *Adjoining Islands.*

4. *Straits, Sounds and Channels.*
   a. Waters connected.
   b. Lands separated.
5. *Commercial Advantages.*

EASTERN COAST.

SOUTHERN AND WESTERN COAST.

Remark to Teachers: Use the same topics for all the coast that are given for the Northern, and while students are learning all about these topics let them draw the outline on the map each day as much as they learn.

V. *Relief.*
1. The main axis.
2. The secondary axis.
3. Water sheds.

VI. *Surface.*
1. Western Highlands
   a. Extent.
   b. Altitude.
   c. Mountain chains.
   d. Mountain peaks.
   e. Volcanoes.
   f. Plateaus.
   g. Mountain slopes.
   h. Valleys.
   i. Source of what rivers.
   j. Inhabitableness, sources of wealth, etc.
2. Eastern Highlands.

   Remark: Use the topics given above.
3. Mississippi Basin.
   a. Extent.
   b. Average elevation.

c. Drained by what rivers.
d. Character of climate.
e. Character of soil.
f. Sources of wealth.

4. Atlantic plain.
5. Pacific slope.
6. The Arctic plain.

Topics the same as the Mississippi Basin.

VII. *Rivers.*

1. Systems.
2. Description of particular rivers.
   a. Length and size.
   b. Navigation.
   c. Water-power.
   d. Cities benefited by the river.

IX. *Lakes.*

1. Description.
2. Uses.
   a. Navigation.
   b. As yielding fish.
   c. Cities on their shores.

X. *Climate.*

1. As determined by latitude.
2. As modified by altitude, winds, oceans and lakes.
3. Dryness or moisture.
4. Healthfulness.

XI. *Natural Advantages.*

1. On the surface of the earth.
   a. Soil and climate for agriculture.
   b. Forests.

c. Facilities for transportation by sea, rivers or lakes.

2. Within the earth.
   a. Useful minerals and metals.
   b. Precious metals.
3. In the waters.
   a. Sea-fisheries.
   b. Lake and River fisheries.

XII. *Industries.*

1. Agriculture.
   a. Relative importance.
   b. The crops raised.
   c. Cattle, sheep and hog raising.
2. Manufacturing.
   a. Relative importance.
   b. Articles produced.
3. Mining.
   a. Metals and minerals found.
   b. To what extent are the mines worked.
4. Lumbering.
   a. Locality of forests.
   b. Kinds of wood.
   c. Description of methods.
5. Fisheries.
   a. Locality of Fisheries.
   b. Kinds of fish.
6. Commerce.
   a. Foreign.
      1. Exports.
      2. Imports.
      3. Means of transportation.

b. Domestic.
1. Articles of exchange of one locality with another.
2. Means of transportation.

XIII. *Internal Improvements.*
1. Railroads.
a. Local roads.
b. Trunk lines.
2. Canals.
3. Navigation on lakes, rivers and ocean.

XIV. *Political Divisions.*

Particular Geography.—The above topic list is one that with few changes will answer for any grand division. The topics are all of a general nature. In studying our native land, we must take up a particular section of it after we have studied North America by the above list. There are many topics pertaining to cities, education, religion, industries, curiosities, and points of historical interest, that must then be taken up. But every teacher will be able to form such a list.

In studying Europe, you will take up the leading countries and study them as we do particular sections of our own country. It is well to have some members of the class make a special study of a particular subject and present it to the class.

History.—Geography is said to be the mother of Sciences. She prepares the way for Physics, Geology, Botany, Zoology, Chemistry and History. None of these sciences can be successfully studied without first a fair knowledge of geography. Especially is this

true of History. History is the drama that has been acted on the stage which geography builds into the mind. It is what we are, do, and have done that is most interesting in geography. The beginning of historical study is made when anything which pertains to the present or past of mankind is learned in geography. As soon as the child loves to hear stories, the historical sense has been awakened. In view of the fact that all children have such a love for stories and such ability to remember them, it can be only the worst bungling in teaching that causes any of them afterward to dislike history.

The worst difficulties in teaching history successfully are the want of correct ideas on the part of teachers, the want of proper text-books. Children can not understand the language of the books placed in their hands. They therefore commit to memory as nearly as possible the language of the book, when in fact they do not comprehend it at all. The text-books are usually arranged on a very scholarly and philosophical plan, beginning with vast generalizations, and analyzing these in a truly scientific manner. The average teacher is not very well informed in history, and still less in the principles that underlie the teaching of it to children; so he is helpless, and the best he can do is to assign a lesson in the book and make the children learn the language of the books.

History is so vast a subject that a life-time is too short to learn all that has been recorded that is worth knowing. When years have been devoted to it, it is only begun. In the grammar school a fair knowledge of our native land is all that should be attempted. In the high school a good beginning should be made in

the history of the most illustrious ancient and modern peoples.

Uses of the Study of History.—As yielding useful knowledge it is useful. But as a source of mental drill it can not be dispensed with in the school. It frees man from the limitations of time and enables him to live through the thousands of years in which the race has lived. It frees him from the narrow and inadequate views of life that are born of his own limited experience. History adds to his experience that which has been gained by the best men of past centuries. In this way he forms grander and nobler ideas of moral and intellectual worth. History raises him out of narrow and imperfect conceptions and places him on the broad plain of truth. Instead of remaining narrow-minded and bigoted, he becomes comprehensive, liberal and progressive in his life and thought.

Ends to be Sought in the Study of History.—It is of great importance that the teacher have a clear idea of what he wishes to accomplish in a given study in a given time. School life is so short and history is so long, that if anything is to be well done, it must be done so as to accomplish the most in a short time. The first end to seek is to awaken a love for history. Children are so fond of stories and everything in the form of stories that it is not difficult to create a love for biography, travels and history. It is only necessary to follow nature and avoid trying to teach children as scholars should be taught. The second end to seek is to form right habits of study so that they can pursue the study successfully when they leave school.

History like geography employs the imagination. It is largely subjective. This inner world must be developed from a very small beginning. This is done by first telling the child stories of men or animals with which it is well enough acquainted, so as to comprehend an account of their actions. As more exercise is had in narration and as more historical facts are gathered and understood, this mental world widens its borders. The mind is then able to take in a wider range of truth. When a large amount of fragmentary history has been accumulated the mind then has standing and working room. The horizon of its knowledge is sufficiently extended that it can begin to see the relation of historical facts. Or it can begin to comprehend systematic history. While if the mind is required to understand systematic history before the range of vision is extended, it gropes in the dark, unable to get clear ideas of historical facts. This principle requires that the study of history be divided into two distinct parts. The objects and the methods of the first should be to prepare the mind to comprehend history. The objects and methods of the second should be to gather into the mind most rapidly and accurately that part of history that is most necessary to give a broad and comprehensive view of the progress of truth and virtue in the world. To learn history simply for the sake of knowing it is almost useless, but to learn history that we may see how the right triumphs over the wrong, is to enrich our minds with the precious treasures of truth.

Preparatory History.—The teacher should keep in mind that in this stage of the work he is to try to keep up an interest in historical matter, and that he has to

begin with the child's love for stories and lead it to comprehend what men and nations have done. The first material then is anecdotes and fables, then biography, then a narration of events. When a good deal of this fragmentary knowledge has been gained and the historical sense has been developed, the mind will begin to group together events that occur at the same time, and discover the relation of cause and effect. It begins to form ideas of systematic history.

First Course.—As early as possible then give them stories to reproduce orally and then in writing in their language work. These may include fables, fairy-stories, stories from the Bible, and of historical characters. In their geography give them as much as they can comprehend of the people of the country which they are studying.

In the fourth year of school they should take up a regular course of study in biography. It matters little which character you study or in what order they are studied so that you keep within the comprehension of the children and make it interesting. It is best however to begin with a well known name, then they will be able to learn much from parents and others.

The following list of topics will serve as a model to teachers. Make an outline similar to this of each character and let it serve as a guide as to what they are to learn either from you or from others if they can. After it is so well learned that they can give the facts and tell the story orally let them reproduce it in writing:

ABRAHAM LINCOLN.

When and where was he born.

Find out what you can about his father and mother and step-mother.
In what places did he live.
In what kind of houses did he live.
To what kind of schools did he go.
What did he work at when he was a boy.
How did he spend his evenings and spare time.
Give anecdotes of his boyhood.
What did he do when he was a young man.
Tell about the Black Hawk war.
What did Mr. Lincoln do in the war.
Explain Negro slavery.
Anecdotes showing why he was so successful as a lawyer.
Election to the Presidency.
Simple story of the war.
Anecdotes showing his qualities as a president.
Story of his death.
What the people think of him.
Lesson of his life—Industry, honesty and his desire to do good made him great and beloved.

A month or more may be spent on such a topic-list. Let the childen find out for themselves what they can and let them tell it in class. What they can not get, tell them yourself. If they are not interested, it is because they do not understand you, and you will have to make it more simple.

Take up one after another the prominent characters of history, and in connection with them learn something about the historical events in which they were engaged. Being very careful that all things are brought down to the comprehension of the child. Two years can be profitably spent in this kind of work.

If possible, have the children read children's books of biography and travel.

Second Course.—The seventh year of school should be spent in work similar to the first course, except that it should include more of real history in connection with biography and should be pursued in a more systematic way. Begin with Columbus and learn about the discovery of America, and about his time in connection with his life. In imagination you can follow him to America and discover all that he discovered. With Cortez you can learn much about Spanish explorations and settlements. With John Smith you can learn the early history of Virginia. Miles Standish, Roger Williams, Lord Baltimore and Wm. Penn open the way to their respective colonies. Washington will lead to a fair knowledge of the Revolution.

The children have now attained their thirteenth year, and can read books on history, biography and travel. Higginson's "Child's History" might be profitable used as a book of reference.

The following topic-list will serve as an example to teachers, of how to map out a course of study in advanced biography:

CHRISTOPHER COLUMBUS.

Birth—When and where.
Early education.
How and where was his youth spent.
What was his calling.
What was the then known world.
An account of Marco Polo's travels.
The trade with the Indias.
The people's idea of the shape of the earth.

Columbus' Ideas.
Plan for a voyage.
1. Object of his voyage.
2. Asking for aid.
3. Story of his application to Ferdinand and Isabella.
Fitting out vessels.
First voyage.
1. When made.
2. Incidents.
3. Discoveries.
4. Return to Spain—How.
Story of the Second voyage.
Story of the Third voyage.
Story of the Fourth voyage.
Action of his enemies.
His last days.
Death and burial.
His character.
Result of his work.

Systematic History.—If the work in preparatory study has been well done, the mind of the pupil will have been trained to comprehend historical knowledge, and will easily master systematic history. The work that they have been doing has been synthetic, now they should study analytically. They can now use advantageously a text-book, that is philosopically arranged—in which all events are properly classified, so as to show clearly the line of causation that extends through them. This fact, that history is not simply a catalogue of disconnected facts, but that it is a recital of the actions of men and their effect on the

weal and woe of nations, is to be your chief source of interest. You must therefore pay particular attention to causes. How interesting history becomes when we can see in it the high and low motives that actuated men, and trace out the good and evil of their actions. How interesting the Revolution when we see the noble purposes of the colonies. Especially when we see how grandly they worked for humanity, and how successful they were, as is testified by the happiness and prosperity of this great nation. How easily this grand result could have been defeated by avarice or low ambition on the part of a few of the leaders. So there is intense interest in the slavery struggle. How right and wrong are in continual conflict. In Systematic history all events are connected by the chain of causation, and if this can be understood it will be intensely interesting.

The topical method is best adapted to this study. At first let the teacher make a topical outline of the subject, but when the student has learned how, let him make an outline.

Do not adhere to one text-book, but have the students consult as many text-books as possible. Let each pupil read up the subject and report all that he thinks of most interest.

In recitation call on a pupil to tell all that he has learned about a certain topic. When he has finished, let him be corrected if he has made a mistake and let others give what points have not been given. Let there be free discussion on all points if there is room for a difference of opinion. This adds greatly to the interest.

Pay little attention to dates. Learn all about the

events, cause, effect and place. If these are well understood, the time is easily remembered. Try to remember the exact day only in events of special importance.

The following outline will serve as a model to teachers:

THE UNITED STATES.

1[1] History.
1[2] Periods.
1[3] Aboriginal.
1[4] Time.
2[4] Inhabitants.
1[5] Mound builders.
1[6] Evidences.
2[5] Indians.
1[6] Families.
1[7] Esquimaux.
2[7] Algonquins.
3[7] Hurons, Iroquois, etc.
1[8] Territory occupied.
2[8] Habits of life.
3[8] History.
2[3] Voyaging.
1[4] Time.
2[4] Nations that made voyages.
1[5] Norsemen.
1[6] Herjulfson.
2[6] Lief Erickson.
3[6] Thorwald, etc.
2[5] Spanish.
1[6] Columbus.
1[7] Biography.

1[8] Birth and death.
2[8] Education and occupation.
3[8] State of geographical knowledge.
1[9] Theory of the earth.
2[9] Travels of Sir John Mandeville.
3[9] Travels of Marco Polo.
4[8] State of commerce.
1[9] The route to India.
2[9] The rival cities.
5[8] Motives of Columbus in undertaking to make a voyage to the West.
6[8] History of his failures.
7[8] Fitting out the vessels.
8[8] Brief sketch of Ferdinand and Isabella.
2[7] First Voyage.
1[8] Time of starting.
2[8] Description—tracing his route on the map and giving accounts of incidents in the voyage.
3[8] Discoveries and explorations—tracing on the map describing the country and people.
4[8] Return to Spain.
1[9] Columbus' reception.
2[9] Effect of his discoveries.
3[7] Second, Third and Fourth voyages, with Subordinate Topics as in First voyage.
4[7] A thorough review, paying particular attention to the geography, and the life and character of Columbus.
2[6] Ojeda and Amerigo Vespucci.

1[7] Explorations.
2[7] Amerigo's Book.
3[7] Name of the New World.
3[6] Here should follow the other prominent Spanish explorers.
3[5] French.
1[6] Cartier.
2[6] John Ribault.
3[6] Landonnier.
4[6] Champlain.
5[6] Demonts.
6[6] Location of French exploration and settlement.

Remark. Teachers will readily see what topics should be given under each of these names.

4[5] English.
1[6] The Cabots.
2[6] Frobisher.
3[6] Drake.
4[6] Gilbert.
5[6] Raleigh.
6[6] Gosnold.
7[6] London Company.
1[7] Date of organization.
2[7] Land grant.
3[7] Leading men.
4[7] Terms of the charter.
5[7] First colonizing expedition.

4[3] Colonial Period.
1[4] Colonies.
1[5] Virginia.
2[5] Massachusetts and other colonies in the order of settlement.

2⁴ Wars.

1⁵ Here should follow an account of the wars with the French and Spanish. The minor Indian ways should be studied with the colonies in which they occur. Make an exhaustive study of the French and Indian war, showing clearly how the whole history was tending to this war. Show what are the results. And also call attention to the treatment which the colonies received from England in this war, and afterward in attempting to make the colonist help pay the debt.

5³ Revolutionary Period.

1⁴ The War.

1⁵ Causes.

1⁶ Show how the colonists came to have different ideas of government from those entertained by the King. Show how the acts of oppression widened this difference and how the colonies at last resisted.

2⁵ Events of 1775.

3⁵ Events of 1776. Pay much attention to geography. Review the previous work at each lesson, tracing the events on the map. Unless the student can go to the map, trace the progress of the war from its beginning to its close, giving a brief account of all important events, he has not learned the history of the war.

2⁴ The Confederation.

1[6] Government during the war.
2[6] The Articles of Confederation.
1[7] Defects.
3[6] Adoption of the Constitution.
1[7] Study this subject thoroughly, it is of great importance.
6[3] The National Period.
1[4] Administrations.
1[5] Washington's.
2[5] Adams's (John).
3[5] The remainder of the history can best be studied by administrations.

Arithmetic.—The study of Arithmetic divides itself naturally into two parts—Number and Practical arithmetic. The object to be accomplished in the first part is to secure well the idea of number, and to gain ease, rapidity and accuracy in the combination and separation of numbers. The science of arithmetic resolves itself into the simple processes of combining and separating numbers. All problems in arithmetic seem to be nothing more than by means of two numbers to find a third. If the definition of reasoning, that "it is the process of comparing two objects of thought through their relation to a third," be correct, arithmetic is a study that reaches the reasoning faculties more constantly than any other study in the school course. Mathematics is therefore a study of great importance in as much as it trains the faculties to the reasoning process. It leads gradually and easily from the objective to the subjective, from the concrete to the abstract. Children can at a very early age get the idea of number in connection with

objects. With them they can easily comprehend their combination and separation. From number associated with objects they readily pass to a mental picture of number abstracted from objects, and when they do this, they comprehend pure number, and have in a simple way begun to reason abstractly. And as this subjective or abstract thinking is one of the main ends in view in the cultivation of the mind, it is clear that number is a most useful study in training. Mathematics require a complete concentration of the mental faculties to the subject in hand, and are therefore excellent as a means of securing the power of concentration. Nothing need be said about the usefulness of mathematics in business and in the arts, for that is so well understood that many parents wish their boys to study only reading, writing and arithmetic. As a rule, those who like mathematics least should study them most, and those who have a passion for them should study other things more. For while they tend to sharpen the intellect and give the power of concentration, they tend rather to impoverish the soul. They dry up the juices of the body and make their votaries thin and pale, they deaden emotion and make the mind little else than a machine that grinds out results with absolute accuracy. The pursuit of language, literature, history, natural science, æsthetics, and moral philosophy tend to awaken the emotions, and lead to deeds of generosity and nobility.

How to Teach Number.—Mathematics being an exact science it is easier to teach than any other subject. Let the teacher remember to follow nature. Let the children learn in the way that is easiest.

Grube's method is founded upon principle and teachers will do well to secure a work on that subject. Perhaps the best illustration of the application of that method is Wentworth's "First Steps in Number," published by Ginn & Co., Boston. The following is taken from the teacher's edition. No teacher should be without this excellent work :

For a successful teaching of Number the teacher needs a great variety of objects. Blocks, splints, sticks, buttons, paper patterns, peas, beans, corn, spools, counters, shells, pebbles, horse-chestnuts, acorns, little tin plates, cups and saucers, tin money are inexpensive and convenient to handle. For measurements, the teacher must have inch measures, foot rules, yard measures, a set of tin measures, a set of wooden or paste-board measures, a set of weights and a pair of scales.

The teaching of Number as far as ten does not include the teaching of figures or other signs used in Arithmetic. No blackboard work is required of the child until he has learned the numbers below ten. There is no difficulty in learning the figures along with the numbers; the difficulty comes in learning the numbers along with the figures. So it seems best to ignore the sign in favor of the thing.

It is more convenient in these exercises to have the children stand about a table on which are the objects to be handled, and many of the directions to the class are given with this arrangement in view. Let the children illustrate each story with objects, until it is evident that the relation between the numbers is as clearly seen without the objects as with them. Whenever a mental picture is formed, then the material is a

hindrance to the teaching. Objects are a means to an end, not the end. When an idea has been abstracted from the concrete, objects no longer have an office to perform, and should be put aside.

Ascertain the child's knowledge of Number before attempting any teaching of Number. Do this by skillful examination after the child feels at home in the school-room.

"Show me so many blocks (two blocks); so many beans; so many pebbles; so many spools; so many pencils."

"How many blocks have I in my hand? Come, whisper to me, if you know."

After each has whispered the number, ask the class:

"How many spools did you show me? how many beans? how many blocks?"

Let the class answer in concert, "Two," each time.

"Show me two buttons; two boys; two girls; two chairs."

"Put two blocks on the table in front of you; put two buttons on the table; take one button from the table and put it under the table; put one block under the table."

If *two* be known, try *three*, and so on until a number is reached which is not known.

Second step in the examination:

Require the child to show some number with which he is familiar. For example, *two*.

"Take one of your two blocks away. How many blocks have you left?"

"If I have two horses and sell one horse, how many horses will I then have?

"If I have two pencils and lose one pencil, how many pencils have I left?"

"You may put one block on the table in front of you. You may put another block with it. How many blocks have you now shown me?"

"One block and one block are how many blocks?"

This outline for review is merely suggested as being searching in its nature. The aim should be solely to bring to light all the child's knowledge of Number, that the teacher may waste no time upon teaching him what he already knows. Do not hurry the examination. See that each child does for himself what you require, and does not imitate you or his neighbor in his work. Let each one answer for himself. Distinguish between the child's failure to understand your language and his inability to do what you require of him.

When the examination is complete, begin the teaching, and take the child where he is. As far as the experience of most primary teachers goes, few children know beyond *two* when they enter school for the first time. In most instances *three* will be the starting-point in teaching.

The ability to count up to a number does not constitute a knowledge of the number; so this must not be taken as the test of the child's knowledge. Do not permit counting by ones throughout the work in Arithmetic.

In the teaching of every number the order to be observed is as follows:

I. The perception of the number.
II. Analysis of the number.
III. Drill upon facts discovered by analysis.
IV. Comparison with smaller numbers.

THE NUMBER FIVE.

§ 9. Five as a Whole.

Show me four blocks; put one more with them. You have shown me five blocks.

Show me five fingers; five children; five marks on the board.

Make five *u*'s; five *i*'s.

Show me five words on the board that you know.

Show me five sticks; five pencils; five pieces of paper; five desks; five chairs.

Bring me five things from the play table; five things from my desk.

Tell me where you have seen five men; five horses; five cars; five birds.

What else have you seen five of?

Copy the word five.

§ 10. Discoveries in Five.

Show me five blocks.

Put your blocks as I put mine.

Who can put his some other way? some other way? some other way?

I will take one of my five blocks away. You may do the same.

What other number can you take away? what other? what other?

Exercise for Review.

Tell me how many blocks are four blocks minus one block. (Teacher performs the operation with the blocks as child reads.)

Three blocks minus one block.

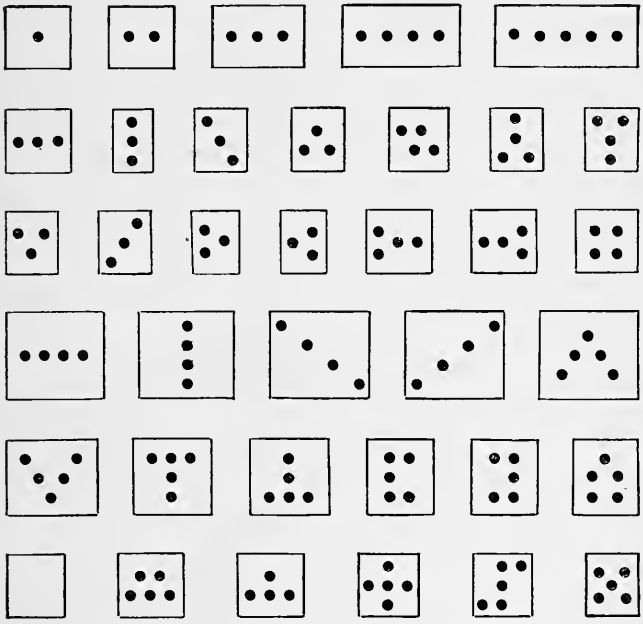
Two blocks minus one block.

One block minus one block.

Read this. (Teacher shows a number of blocks and takes away some of them. Child reads as above.)

Read this. (Four minus two are two.)

Tell me the number of dots as I point.



§ 11. Facts in Five.

Four and One.

Take four blocks. Take one more block. How many blocks are four blocks and one block?

Make four marks on the board. Make one mark on the board. How many marks are four marks and one mark?

Find four bright stars on my chart. Find one more star. How many stars have you found?

Find four rings and one ring. How many rings?

Show me four blocks; one more block. How many have you in all?

Show me four buttons and one button. How many buttons?

One and Four.

Show me one block; now show me four more. How many have you shown me?

One block and four more blocks are how many blocks?

Show me one button; show me four more buttons. How many buttons?

Tell me a story about one and four; another; another.

If there is one pig in the pen, and four more are put in the pen, how many are in the pen?

One boy is playing foot-ball, and four more come to play with him. How many boys are then playing foot-ball?

One fly is in the room; four more get in. How many flies are in the room?

Five minus One.

Show me five blocks.

Put one of your five blocks under the table.

How many have you left?

Tell me that story.

You may call your blocks rabbits, and tell me that story.

Call yours dolls, and tell me a story like this. Who will tell me another? another? another?

School keeps Monday, Tuesday, Wednesday, Thursday and Friday; five days in the week. If you are absent one day, how many days do you come?

There are five fingers on one hand, with the thumb. How many without the thumb?

You had five *i*'s on your slate; I rubbed one out. How many remained?

Five minus Four.

Show me five blocks.

Put away four.

How many have you left?

Tell me how many are five spools minus four spools.

There were five eggs in the basket; I have used four. How many are left?

There were five Noah's Arks in the shop window, and a man bought four. How many were left?

There were five leaves to a twig; four blew off. How many were left on the twig?

Five little girls are reading; four find a word they do not know. How many read on?

I have five mittens; four are alike. How many are odd?

There were five geranium blossoms, but four faded. How many were left?

Exercise for Review.

Make five straight up-and-down lines on the board. Five right-and-left lines. Five slanting lines.

You may name the days of the week that you come to school. How many days?

Who can point to five things in the room? to five figures on the clock?

How many hands on the clock?

The long hand goes round the face each hour. How many times will it go round in two hours? in three hours? in four hours?

There are four lamp-posts on the street, and one more is put up. How many lamp-posts are there? Show me this on the board, by drawing the lamp-posts.

I could see four boats on the water, and one more came in sight. Show me on the board how many were in sight then.

Four trees were in front of our house, but one had to be cut down. Show me on the board how many were left.

I know where there are two bird's nests, with two blue eggs in each nest. Show me how many eggs there are in both nests.

At the table this noon there were five plates, with an apple on each plate. Show me this on the board, and tell me how many apples there were.

Read what I show you.

Mary, show Nettie something to read; show Jennie something to read; show Cyrus something to read.

Annie, show Mary something to read; show Cyrus something to read.

Three and Two.

Show me three spools; put two more with them. How many spools in all?

Give me three buttons; now give me two more. How many have I?

Shut you hand; open three fingers; now open two more. How many fingers are open?

Here are three knives and two forks. How many things are here?

Three cups and two saucers stand on the table. How many things on the table?

If Nettie comes to school three days and two days in the week, how many days does she come to school?

If there are three slices of bread on one plate, and two on another, how many on both plates?

There are three little kittens in the basket, and two on the floor. How many kittens in all?

Three cents and two cents are how many cents?

Who can tell me a story about three soap-bubbles and two soap-bubbles? three honey-bees and two honey-bees? three boats sailing down the river and two boats sailing up the river?

Two and Three.

This knife has two blades, and this has three; how many blades have both knives together?

Here are two pebbles in this hand, and three in this; how many in both hands together?

I make two dots; now I make three more. How many dots have I made?

If you make two *u*'s on the board, and then make three more, how many *u*'s will you make?

Show me that two sticks and three sticks are five sticks; that two pencils and three pencils are five pencils; that two fingers and three fingers are five fingers; that two boys and three girls are five children.

Five minus Two.

Show me five blocks; take away two blocks. How many blocks remain?

Tell me that story.

Show me five splints; put back two of the splints. How many splints have you now?

Call your splints men, and tell me that there were five men, and that two walked away.

Call them lamp-posts, and tell me that two had no lamps on them.

Call them chimneys which a man had to build, and tell me that he has built two.

Call them slate pencils, two of which got broken.

Call them curtain sticks, two of which were used for curtains.

There were five peas in a pod. When the pod was opened, one flew up in the air and one fell on the floor; the rest went into the pan. How many went into the pan?

Five little girls were running in a line. One got snapped off, and another fell down. How many were left in the line?

Five boys were playing fox and geese. One boy was the fox, and one goose got caught before he could hide. How many geese remained to be caught?

Who has a story to tell me for five minus two?

Five minus Three.

How many dots do I show you on the board? (Five.) You may rub out three dots. How many dots are left? Five dots minus three dots are how many dots?

Here are five lines; you may cross out three lines. How many lines are crossed?

There are five erasers at the board; you may bring three of them to this board. How many remain at that board?

Five children may stand in a row; three may walk off. How many are left in the row?

Show me five fingers on one hand; shut down three. How many remain open?

If you have five cents, and buy a book for one cent, two pencils for a cent, and ten sheets of paper for a cent, how many cents have you left?

If I buy a three-cent postage stamp, and give five cents in payment, how much change ought I to receive?

I have a pail which holds five pints of milk; there are three pints of milk in it. How much more will it hold?

Here are five marks on the boards, which you may call boys. One boy turned down Depot Street, another went up Pleasant Street, and one went into the post-office; the rest walked along together. How many walked along together?

Exercise for Review.

How many sides has this triangle?

How many corners has this triangle?

How many sides has this square?

How many sides has this blackboard?

How many corners has this blackboard?

Make a square with blocks, putting one block on a side. How many blocks does it take?

Put a bean in each corner of this square. How many beans does it take?

Make a triangle, putting a block on each side. How many blocks does it take?

Put a button in each corner of the triangle. How many buttons does it take?

How many corners has this table?

How many sides has this table?

Who will show me five things?

Who will show me four things?

Who will show me three things?

Read what I show you. (Teacher shows child any operation in Addition or Subtraction that he has seen. Pupil reads as teacher makes the changes.)

Show me that three spools and two spools are five spools; that two spools and three spools are five spools; that one spool and four spools are five spools.

One minus one is how many?

Two minus one are how many?

Three minus one are how many?

Four minus one are how many?

Five minus one are how many?

Two minus two are how many?

Three minus two are how many?

Four minus two are how many?

Five minus two are how many?

Five minus Five.

How many blocks have I? (Five.)

Tell me how many I have taken away. (Teacher puts five under the table.)

How many have I left?

You may show me that and tell me about it.

Some one else show me that five minus five leaves none.

You may each call your blocks fruit, and tell me

about five minus five. Call them animals. Call them dishes. Call them chairs.

Here are five kittens; five are asleep. How many are awake?

There were five horse-cars in the street; five were moving. How many were still?

If I have five pencils in my box, and take out five, how many are left?

Exercise for Review.

Arrange your blocks on the table just as I arrange these dots on the board.

One dot at each corner and one dot in the middle make how many dots?

Like this. How many have you?

Like this. Like this.

One dot in the upper row and three dots in the lower row make how many dots?

Three dots in the upper row and two dots in the lower row make how many dots?

Like this. How many did I make this time?

If you have two weeks' vacation in the fall, and three in the winter, how many weeks' vacation does that make? If you visit three weeks, how many weeks do you stay at home?

A knife, a string, a bit of crayon, a cent and a nail were found in Ned's pocket. How many things? He gave the crayon to me, spent his cent, drove his nail into a board, and lost his knife. How many things remained?

Five divided by One.

Here are five dolls; give one to each little girl. To how many little girls can you give them?

Here are five cents; put each in a box by itself. How many boxes does it take?

Here are five crayons; put each at a board by itself. How many boards does it take?

Here are five paper rings; put each on a finger by itself. How many fingers does it take for the five rings?

Here are five cards; put each in an envelope by itself. How many envelopes will it take?

If a housekeeper had five eggs, and used one a day, how many days would five eggs last her?

If a family use a pound of butter a day on the table, in how many days would they use five pounds?

Jamie has five cents; he earned a cent a day. How many days did it take him to earn the five cents?

Five Ones.

Show me five blocks, with a button on each block. How many buttons are there?

Show me five boxes, with a shell on each box. How many shells do you show me?

Here are five boys; each may take one block. How many blocks have the boys together?

Show me five tin plates, with a paper cent in each plate. How many cents have you shown me?

Show me a cup in each plate. How many cups?

Five boys have each a slate. How many slates do they all have together?

If each of the five slates has a sponge fastened to it, how many sponges have all the slates?

Exercise for Review.

Put on the board marks for what I show you. (Teacher shows different combinations of numbers. Child shows the same combination with marks on the board. Teacher shows a number and subtracts from it. Child shows the number on the board and crosses out the number subtracted.)

Read what you have shown me on the board.

Illustrate with marks on the board the stories I tell you:

Three men were raking hay; two more men went to rake hay with them.

Take this paper money. Johnny may be the salesman. The others may be his customers and buy these things that are on the table.

Nettie may be the first customer.

"How do you sell your apples?"

"I sell them at two cents apiece."

"I will take two." (Nettie passes a five-cent piece in payment.)

"Two apples at two cents apiece, four cents, and one cent are five cents."

Maggie may be the second customer.

"I wish for a spool of white thread."

"What number do you wish?"

"Number 60."

"It is four cents."

(Maggie passes a five-cent piece in payment.)

"One spool of thread, four cents, and one cent are five cents."

Mary may buy this time.

"I wish for five of these pictures."

"These pictures are a cent each."

(Mary counts out her five cents and passes it to the shopkeeper.)

Mabel may buy.

"I will take three one-cent pencils. (She gives two two-cent pieces in payment.)

"Three pencils at a cent apiece, three cents, and one cent are four cents."

§ 12. Comparison of Five with Numbers Known.

Show me one block. ○
Show me two blocks beneath this. ○ ○
Show me three blocks beneath these. ○ ○ ○
Show me four blocks beneath these. ○ ○ ○ ○
Show me five blocks beneath these. ○ ○ ○ ○ ○
Which is the smallest number?
Which is the largest number?
Which is one more than one?
Which is one less than five?
Which is one more than two?
Which is one less than four?
Which is one more than three?
Which is one less than three?
Which is one more than four?
Which is one less than two?
Five is how many more than four?
Five is how many more than three?
Five is how many more than two?
Five is how many more than one?
Five is how many more than none?
Four and how many are five?
Three and how many are five?
Two and how many are five?
One and how many are five?

Five minus one are how many?
Five minus two are how many?
Five minus three are how many?
Five minus four are how many?
Five minus five are how many?

§ 13. One-half

What have I? (An apple.)

I will give you part of my apple. I will give Mamie the other part.

Look at the two pieces into which I cut the apple. Which is the larger piece? (The answer, "They are just the same," is usually given. Give the word "equal" for "just the same.")

What have I now? (A card.)

I will give Ned a part of this card. I will give Annie the other part.

Look at the two pieces into which I have cut the card. Which is the larger piece? (They are equal.)

You may cut this apple into two equal pieces.

You may cut this paper ring into two equal pieces.

You may cut these paper scissors into two equal pieces.

You may divide this envelope into two equal pieces.

You may divide this square into two equal pieces.

Show me the two pieces into which you cut the apple. What part of the apple is each piece?

Each of the pieces is one-half of the apple.

Show me one-half of the apple.

Show me the other half of the apple.

Show me the two pieces into which you cut the paper ring. Which is the larger piece?

Show me one-half of the ring.

Show me the other half of the ring.

Into how many pieces did you cut the paper scissors? Are the pieces equal?

Show me one of the two equal pieces. Can you tell me what part of the scissors it is? Show me the other half of the scissors.

Show me one-half of the envelope.

Show me one-half of the square.

Ned, you may give Susie half of this apple, and keep the other half yourself.

Look at the two halves of the apple. Which is the larger?

I will divide this apple into halves. Into how many parts do I divide it?

What part of the apple is this? (Holding up one half.)

What part of the apple is this? (Holding up the other half.)

Show me half of an apple.

Show me another half of an apple.

Show me half of this sheet of paper; half of this ring; half of this circle; half of this string.

How many halves of an apple make a whole apple?

How many halves of an orange make a whole orange?

How many halves of an hour make a whole hour?

How many halves of a pencil make a whole pencil?

Advanced Arithmetic.—To teach advanced arithmetic, or that work beyond numbers, it is necessary that the teacher keep constantly in mind the objects which the study should accomplish.

These objects are:

1. To give skill in the use of numbers.
2. To train the mind to think accurately and systematically.

These objects are not independent of each other. The success of the one depends upon the other. By skill in the use of numbers is meant, first, ease, rapidity and accuracy in the combination and separation of numbers. This is accomplished in the number work. Second, readiness in the solution of practical problems in business life. This readiness to apply arithmetical knowledge to business is possible only when the mind can think systematically and accurately.

It will be found in nearly all cases when pupils can not solve a problem, that the fault lies either in the computation or in erroneous reasoning. You should find out where the deficiency is and apply the remedy. If the pupils has been taught as indicated in "How to teach numbers," there will be no difficulty in the computation. But if your pupils in advanced arithmetic do not add, subtract, multiply and divide rapidly, and accurately, put them through a daily drill until they have mastered this step.

Your prime object after this has been secured, is to train the mental faculties to reason accurately, and enable the pupil to apply his knowledge to practical account. In this work you must make haste slowly. Pupils will be impatient, and will want a way in which they can get the answer quickly. So they will prefer to get rules for particular cases, and to solve problems according to a certain model. And in this error most of the text-books abet them and work against the teacher who wishes to teach according to nature's laws. The text-book in arithmetic should contain no rules

and no models except those which show how to analyze a problem step by step. Wentworth's Arithmetic is the best book now before the public. It contains problems, plenty of them and those of the right kind. The text-book in Arithmetic should furnish the work to be done, but should let the *teacher* do the teaching.

When you take up a new subject in Arithmetic you should begin with the simplest problems in the subject. Lead the pupils to understand the *nature* of the subject, to think about it and to do the sensible, reasonable thing. Lead them step by step to understand the nature of the case, and, if possible, let them discover the way to solve it by thinking about it. If they can not go ahead themselves, you tell them what you think would be the right thing to do. Then see to it that they, too, see that that is reasonable. And so step by step unravel the mystery. This method appeals directly to their reasoning faculties. It cultivates them, and daily practice enables them soon to reason correctly instinctively. This method makes the pupil independent of the text-book, and enables him by the power that is within him to know and to do. His treacherous memory is not burdened with rules and processes. If he has a problem to solve, he solves it by his innate power of reason, and not by a remembered rule. This method is most useful because it strengthens the mental faculties and trains them to accurate thinking; it is most practical because it makes the mind always ready for any problem in practical life.

This training of the mind is secured only by a careful analysis of every subject in Arithmetic. If you are to begin the subject of Denominate Numbers, be careful to so clearly explain about bushels, pecks,

quarts and pints, so that all clearly understand what they are, and how the one is related to the other. By simple problems, show them how bushels may be changed to other denominations, and how pints may be changed to higher denominations. When they clearly understand the subject, show them how they may most clearly and completely express the solution of problems. Be careful that they do not learn this as a mere form, but that they clearly comprehend each step in the process.

Example: How many pts. are there in 6 bu.?

Solution:

I. $\begin{cases} a. & 1 \text{ bu.} = 4 \text{ pk.} \\ b. & 6 \text{ bu.} = 6 \times 4 \text{ pk.} = 24 \text{ pk.} \end{cases}$

II. $\begin{cases} a. & 1 \text{ pk.} = 8 \text{ qt.} \\ b. & 24 \text{ pk.} = 24 \times 8 \text{ qt.} = 192 \text{ qt.} \end{cases}$

III. $\begin{cases} a. & 1 \text{ qt.} = 2 \text{ pt.} \\ b. & 192 \text{ qt.} = 192 \times 2 \text{ pt.} = 384 \text{ pt.} \end{cases}$

IV. *Hence:* 6 bu. = 384 pt.

Example: How many bu. are there in 448 pts.?

Solution:

I. $\begin{cases} a. & 1 \text{ pt.} = \frac{1}{2} \text{ qt.} \\ b. & 448 \text{ pt.} = 448 \times \frac{1}{2} \text{ qt.} = \frac{448}{2} \text{ qt.} = 224 \text{ qt.} \end{cases}$

II. $\begin{cases} a. & 1 \text{ qt.} = \frac{1}{8} \text{ pk.} \\ b. & 224 \text{ qt.} = 224 \times \frac{1}{8} \text{ pk.} = \frac{224}{8} \text{ pk.} = 28 \text{ pk.} \end{cases}$

III. $\begin{cases} a. & 1 \text{ pk.} = \frac{1}{4} \text{ bu.} \\ b. & 28 \text{ pk.} = 28 \times \frac{1}{4} \text{ bu.} = \frac{28}{4} \text{ bu.} = 7 \text{ bu.} \end{cases}$

IV. *Hence:* In 448 pt. there are 7 bu.

Example: At 5c. a pt. what will 3 bu. 1 pk. 2 qt. 1 pt. of berries cost?

Solution:

I. { *a.* 1 bu. = 4 pk.
b. 3 bu. = 3×4 pk. = 12 pk.
c. 12 pk. + 1 pk. = 13 pk.

II. { *a.* 1 pk. = 8 qt.
b. 13 pk. = 13×8 qt. = 104 qt.
c. 104 qt. + 2 qt. = 106 qt.

III. { *a.* 1 qt. = 2 pt.
b. 106 qt. = 106×2 pt. = 212 pt.
c. 212 pt. + 1 pt. = 213 pt.

IV. { *a.* 1 pt. costs 5c.
b. 213 pt. cost 213×5c. = $10.65.

V. *Hence:* 3 bu. 1 pk. 2 qt. 1 pt. at 5c. a pt. cost $10.65.

Example: Reduce 521 pts. to higher denomination.

Solution:

I. { *a.* 1 pt. = $\frac{1}{2}$ qt.
b. 521 pt. = 521×$\frac{1}{2}$ qt. = $\frac{521}{2}$ qt. = 260 qt. 1 pt.

II. { *a.* 1 qt. = $\frac{1}{8}$ pk.
b. 260 qt. = 260×$\frac{1}{8}$ pk. = $\frac{260}{8}$ pk. = 32 pk. 4 qt.

III. { *a.* 1 pk. = $\frac{1}{4}$ bu.
b. 32 pk. = 32×$\frac{1}{4}$ bu. = $\frac{32}{4}$ bu. = 8 bu.

IV. *Hence:* 521 pt. = 8 bu. 4 qt. 1 pt.

Example: If $\frac{3}{5}$ of an acre of ground cost $75, what will $\frac{2}{4}$ of an acre cost?

Solution:

I. { *a.* $\frac{3}{5}$ acre = or costs $75.
b. $\frac{1}{5}$ acre = or costs $\frac{1}{3}$ of $75 = $25.
c. $\frac{5}{5}$ or 1 acre = or costs 5×$25 = $125.

II. { *a.* 1 acre = $125.
b. $\frac{2}{4}$ acre = $\frac{2}{4}$×$125 = $\frac{250}{4}$ = 35.55\frac{4}{4}$.

III. *Hence:* If $\frac{3}{5}$ acre costs $75, $\frac{2}{4}$ acre costs $35.55.

Example: Find 6% of $248.

Solution:

I. { *a.* 100% = $248.
b. 1% = $\frac{1}{100}$ of $248 = $2.48.
c. 6% = 6×$2.48 = $14.88.

II. *Hence:* 6% of $248 = $14.88.

Example: $25 is what per cent of $2000?

Solution:

I. { *a.* $2000 = 100%.
b. $1 = $\frac{1}{2000}$ of 100% = $\frac{100}{2000}$% = $\frac{1}{20}$%.
c. $25 = 25×$\frac{1}{20}$% = $\frac{25}{20}$% = $1\frac{1}{4}$%.

II. *Hence:* $25 is $1\frac{1}{4}$% of $2000.

Example: $50 is 40% of what number?

Solution:

I. 100% = the number.

II. { *a.* 40% = $50.
b. 1% = $\frac{1}{40}$ of $50 = $\frac{50}{40}$ = $1.25.
c. 100% = 100×$1.25 = $125.

III. *Hence:* $50 is 40% of $125.

Pupils should solve many problems in each case in this manner. Should do so until there is no difficulty in solving them in this way. For then do they understand the principles. All the work which they put on the board or hand to the teacher for inspection should be written out in this manner. It is a good plan for students to keep exercise books and make them as neat and accurate as they can.

When the student can solve problems in this way then he should solve problems with a view of getting

the answer in the shortest and surest way. He can readily invent methods of his own, or the teacher may show him short methods. It is right to teach short methods when the pupil understands the subject, but it is useless and detrimental to teach them before he thoroughly understands the subject. The only true proof of his knowledge of the subject is in a clear analysis of it.

Physiology.

Physiology is not to be studied until the last year of the grammar school. And nothing special need be said of methods of teaching it, except to follow the principles of successful teaching as in other studies.

The teacher should be so well versed in the study that he can teach it without a text-book before him.

Give oral instruction for a few weeks before studying a text-book.

Begin with the digestive organs. Use drawings, charts or pictures in books to give them an idea of the organs. Explain their use. Make it clear to them what each organ does, and how altogether they transform the food into blood.

At the next lesson ask questions on the previous lesson. And keep reviewing until they have learned what you wish them to know and understand.

Next take up the circulating organs in the same way. Explain the use of the blood and give them a fair idea of the organs and how they carry the blood to all parts of the body.

Then study the lungs, the skin and other organs that purify the blood.

In the same manner give a good idea of the bones and muscles. Make the whole subject just as interesting as you can with objects and illustrations.

In these oral and object lessons the pupils will get a general conception of the subject. They will also learn easily the many hard names which are such a terror to them in the text-book. The subject can be made exceedingly interesting. And when they take up the study in the book they will not find it hard and dry; for they are already interested and have sufficient knowledge to pursue the subject.

Teach them to regard the text-book, only as their source of information and not as a thing to be memorized.

To secure this end you must be independent of the text-book, and lead the way in investigation. Make a topical outline of the subject, and make it somewhat different from the one in the book. Place a part of this outline on the board and let them copy it as a guide for the next lesson. Require them to find out all that they can about each topic, and to give it in their own language in recitation. Encourage each one to learn something which another will not be likely to know. A variety of text-books is better than for all to have the same book. The best possible spirit for a student to have is to always be trying to present something new.

Make your study practical by spending much time on the laws of health. Below will be found a general outline of the subject which may aid young teachers:

MAN.

1[1] Physical Nature.
1[2] Systems of Organs.
1[3] Motor.
1[4] The Skeleton.
1[5] Divisions.
1[6] The Head.
1[7] Divisions.
1[8] Cranium.
1[9] Bones.
1[10] Frontal, Temperal, etc.
2[8] Face.
1[9] Bones.
1[10] Inferior Maxillory, etc.
2[6] Trunk.
1[7] Divisions.
1[8] Spinal column.
1[9] Bones.
2[8] Ribs.
3[8] Pelvis.
4[8] Single Bones.
3[6] Extremities.
1[7] Upper.
1[8] Bones.
2[7] Lower.
1[8] Bones.
2[5] Articulations.
1[6] Joints.
1[7] Kinds.
2[7] Membranes.
3[5] Structure.
4[5] Function.
5[5] Hygiene.

2^4 Muscles.
1^5 Structure.
2^5 Kinds.
3^5 Names.
4^5 Function.
5^5 Hygiene.
2^3 Nutritive.
1^4 Organs.
1^5 Digestive.
1^6 Alimentary Canal.
1^7 Divisions.
1^8 Mouth.
2^8 Pharynx.
3^8 Esophagus.
4^8 Stomach, etc.
2^7 Glands.
3^7 Ducts.
1^8 Thoratic.
4^7 Covering.
2^5 Circulatory.
1^6 Heart.
2^6 Arteries.
3^6 Veins.
4^6 Capillaries.
3^5 Respiratory.
1^6 Lungs, etc.
4^5 Excretory.
1^6 Skin.
2^6 Kidneys, etc.
5^5 Secretory.
1^6 Glands.
2^6 Follicles.
3^3 Nervous.

1⁴ Brain.
2⁴ Spinal Cord.
3⁴ Nerves.
  1⁵ Cerebro Spinal.
  2⁵ Sympathetic.
4⁴ Function.
5⁴ Hygiene.

CHAPTER XX.

GRADATION.

Course of Study.—In many country schools there is no course of study provided, which all pupils are compelled to take. The children study what they desire or what their parents desire. The teacher cannot force the pupils into certain studies without making himself trouble, nor can he get the parents to provide the books which the children need.

If the teacher is conscientious he will see to it in some way that pupils take the studies which they need. He will get the school board to use their authority, and he will get the children interested in the oral part of the work and then the parents will consent to their pursuing the study and will provide the books. Matters could be much simplified and expense avoided did the school authorities furnish the text-books as they furnish the desks, etc.

The course of study given on page 370 is for a grammar school of any kind whether it be graded or ungraded. The brace on the left shows when the study is begun; the one on the right when it is completed. This provides for eight years. Each column shows a year and by looking down the column and noting the braces which include the column shows what studies are to be taken that year.

The High School.—Statistics show that only about six per cent of the entire enrollment of a school will be found in the high school. On economic grounds a high school should not be established before there are pupils enough to furnish employment for one teacher at least. The least number of pupils for this is thirty. It then follows, that unless the entire enrollment must be at least 500 pupils. Of the thirty pupils in the high school, there will probably be sixteen in it the first year, ten in the second and four in the third. The course of study given on page 371 is for such a school. As the high school increases in numbers, the courses of study should be increased so that pupils may have abundant opportunity to select according to their requirements. There should be at least two courses that will prepare for college, a Latin scientific and classical course, including such of the modern languages as are required for admission to college. There should also be an English course including the sciences, mathematics, history and literature, for students who will not attend a higher grade of instruction.

Programs for Daily Recitation and Study.—It is of great importance to have a program of recitation, but more important to have one of study. The programs which follow are for a country school of two departments and of three departments. The one on page 373 indicates both the time of recitation and of study. The *italics* refer to the time of recitation, the roman letters to the time when the grade is to study that lesson. When two or more grades are marked to recite at the same time, it means that both or all are to recite together, or that one of the advanced

pupils may hear one class while the teacher hears the rest.

Successive Transformation.—The chart on page 378 is taken from "Payne's School Supervision" an excellent work which teachers are advised to secure. It shows how a school should be divided as it increases in numbers of pupils and teachers.

A COURSE OF STUDY FOR A SCHOOL OF EIGHTY OR ONE HUNDRED PUPILS IN CHARGE OF TWO TEACHERS.

Text-Book.	PRIMARY GRADE.				GRAMMAR GRADE.			
	D 1st yr.	C 2d yr.	B 3d yr.	A 4th yr.	D 5th yr.	C 6th yr.	B 7th yr.	A 8th yr.
Barnes' First Reader.	⎧ ⎫							
Barnes' Second Reader.		⎧ ⎫	⎧ ⎫					
Barnes' Third Reader.			⎧ ⎫	⎧ ⎫				
Barnes' Fourth Reader.					⎧ ⎫	⎧ ⎫		
Barnes' Fifth Reader.							⎧ ⎫	⎧ ⎫
Spelling in Readers, etc.		⎧ ⎫						⎧ ⎫
Harper's Primary Geography.			⎧ ⎫	⎧ ⎫				
Harper's School Geography.					⎧ ⎫		⎧ ⎫	
Wentworth's Primary Arithmetic.	⎧ ⎫			⎧ ⎫				
Wentworth's Gram. School Arith.					⎧ ⎫			⎧ ⎫
Powel's How to Talk.		⎧ ⎫		⎧ ⎫				
Powel's How to Write.					⎧ ⎫		⎧ ⎫	
Harvey's Practical Grammar.								⎧ ⎫
Biography.			⎧ ⎫		⎧ ⎫			
Barnes' United States History.						⎧ ⎫		⎧ ⎫
Brands' Physiology.								⎧ ⎫

COURSE OF STUDY FOR HIGH SCHOOL.

	First Term.	Second Term.	Third Term.
First Year.	Arithmetic. Algebra. Book-keeping.	Grammar. Algebra. Physical Geography.	United States History. Algebra. Physical Geography.
Second Year.	General History. Algebra. Geometry.	General History. Physics. Geometry.	General History. Physics. Geometry.
Third Year.	English Literature. Rhetoric. Zoology.	English Literature. Rhetoric. Chemistry.	English Literature. Geology. Botany.

PROGRAM OF RECITATION FOR A COUNTRY SCHOOL.

9.00 to 9.05	Opening Exercises.				
	E	D	C	B	A
9.05 to 9.15	1st Read.				
9.15 to 9.30		2d Read.			
9.30 to 9.45			3d Read.		
9.45 to 10.00				4th Read.	
10.00 to 10.15					5th Read.
10.15 to 10.25			Recess.		
10.25 to 10.35	1st Reader				
10.35 to 10.45		Numbers.			
10.45 to 11.00			Arith.		
11.00 to 11.20				Arith.	
11.20 to 11.45					Arith.
11.45 to 12.45			Intermission.		
12.45 to 12.55	Numbers.				
12.55 to 1.10		Oral Geo.			
1.10 to 1.25			Geog.		
1.25 to 1.40				Geog.	
1.40 to 2.00					History.
2.00 to 2.15					Spelling.
2.15 to 2.25			Recess.		
2.25 to 2.35	Oral Les.				
2.35 to 2.45		Spelling.			
2.45 to 3.00			Lang.		
3.00 to 3.15				Lang.	
3.15 to 3.35					Gram.
3.35 to 3.55			Spelling.	Spelling.	
3.55 to 4.00			Roll Call.		

PROGRAM OF RECITATION AND STUDY FOR A SCHOOL OF TWO DEPARTMENTS.—PRIMARY DEPARTMENT.

9.00 to 9.10	Opening Exercises.			
	D Class. First Year.	C Class. Second Year	B Class. Third Year.	A Class. Fourth Year
9.10 to 9.25	*Reading.*	Reading.	Reading.	Reading.
9.25 to 9.40	Slate work.	*Reading.*	Reading.	Reading.
9.40 to 9.55	Slate work.	Reading.	*Reading.*	Reading.
9.55 to 10.10	Slate work.	Reading.	Reading.	*Reading.*
10.10 to 10.25	*Or'l Instruct*	Number.	Reading.	Biography.
10.25 to 10.45	Slate work.	*Number.*	Recess.	Recess.
10.45 to 10.55	Recess.	Recess.	Number.	*Biography.*
10.55 to 11.10	*Reading.*	Reading.	Number.	Biography.
11.10 to 11.25	Dismissed.	*Reading.*	Number.	Number.
11.25 to 11.40		Dismissed.	*Number.*	Number.
11.40 to 11.55			Number.	*Number.*
11.55 to 12.00		Roll Call.	Roll Call.	Roll Call.
12.00 to 1.00		Intermission	Intermission	
1.00 to 1.15	*Reading.*	Reading.	Language.	Geography.
1.15 to 1.30	Slate work.	*Reading.*	Language.	Geography.
1.30 to 1.45	Slate work.	Reading.	*Language.*	Geography.
1.45 to 2.00	Slate work.	Language.	Biography.	*Geography.*
2.00 to 2.15	*Number.*	Language.	Biography.	Language.
2.15 to 2.30	Slate work.	*Language.*	Recess.	Recess.
2.30 to 2.45	Recess.	Recess.	*Biography.*	Language.
2.45 to 3.00	Slate work.	Spelling.	Spelling.	*Language.*
3.00 to 3.15	*Reading.*	Spelling.	Spelling.	Spelling.
3.15 to 3.30	Dismissed.	*Spelling.*	Spelling.	Spelling.
3.30 to 3.45		Dismissed.	*Spelling.*	*Spelling.*
3.45 to 4.00	Roll Call	and	Dismissal.	

PROGRAM OF RECITATION AND STUDY.—
GRAMMAR DEPARTMENT.

9.00 to 9.10	Opening Exercises.			
	D Class. First Year.	C Class. Second Year	B Class. Third Year.	A Class. Fourth Year
9.10 to 9.25	*Reading.*	Reading.	Arithmetic.	Arithmetic.
9.25 to 9.40	Reading.	*Reading.*	Arithmetic.	Arithmetic.
9.40 to 10.00	Reading.	Reading.	*Arithmetic.*	Arithmetic.
10.00 to 10.25	Recess.	Recess.	Arithmetic.	*Arithmetic.*
10.25 to 11.45	*Arithmetic.*	Arithmetic.	Geography.	Reading.
10.45 to 11.05	Arithmetic.	*Arithmetic.*	Recess.	Recess.
11.05 to 11.25	Arithmetic.	Arithmetic.	*Geography.*	Reading.
11.25 to 11.40	Arithmetic.	Arithmetic.	Geography.	*Reading.*
11.40 to 12.00	*Geography.*	Geography.	Geography.	Grammar.
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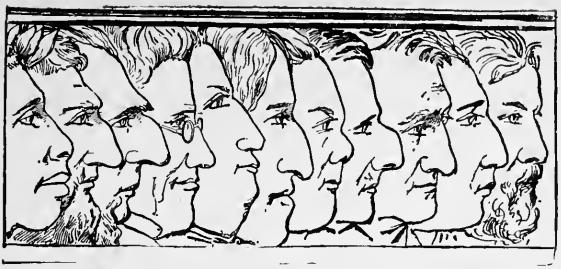

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